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COLEOPTERA.

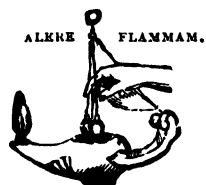
STAPHYLINIDÆ.—VOL. IV.

PART I.

BY

MALCOLM CAMERON, M.B., R.N., F.R.E.S.

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AUTHOR'S PREFACE.

THE present volume, which will be published in two parts, this being Part I, completes the work on the Indian STAPHYLINIDÆ, and deals with the PSEUDOPERINTHINÆ and ALEOCHARINÆ; the former, included by Wasmann amongst the ALEOCHARINÆ, must, owing to the entirely different build of the head, be separated as a definite subfamily, as here distinguished :—

Head with a sharp curved margin, convex in front, extending from the posterior borders of the eyes, these and the insertion of the antennæ situated below this; the clypeal region depressed. Tarsi 4, 5, 5	[p. 1. Pseudoperinthinæ , nov.,
Head without such margin, the antennæ freely inserted on the front internal to the eyes. Tarsi variable	Aleocharinæ Shp., p. 4.

Amongst the European ALEOCHARINÆ, where the same species has been described by different authors considerable discrepancy is often found in the comparison of the relative length and breadth of the thorax, this, apparently, having been established by the eye alone; the measurements given in this volume were made with a micrometer scale.

For the illustrations I am indebted to Miss O. F. Tassart and Miss Dorothy Fitchew.

M. CAMERON.

13th July, 1939.

CORRIGENDA.

VOL. III.

THE following correction should be made in vol. iii, p. 113, where *Philonthus tricoloris* Schub. is given as a synonym of *æneipennis* var. *cliens* Epp. The error is unaccountable, as the two species are abundantly distinct and both represented in my collection. Gridelli (Boll. Soc. Ent. Ital. lxxviii, 1936, p. 150) has already drawn attention to it. On p. 113, line 24, after var. *cliens*, delete, and substitute : Elytra red.

The key on p. 67 should be amended as follows :—

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 52. Thorax bright red (see also <i>circumductus</i> and <i>vagus</i> (81 and 82)) | 53. |
| Thorax black or brown, sometimes with slight metallic reflex | 58. |
| 53. Abdomen black, at most with the posterior margin of the segments reddish. Abdomen in great part red | 54.
56. |
| 54. Larger (8-9 mm.); elytra bright blue . . | <i>tricoloris</i> Schub., p. viii. |
| Smaller (3-4 mm.); elytra otherwise . . | 55. |
| 55. Elytra pitchy, the base, suture, reflexed and apical margins reddish-yellow; abdomen black | <i>speciosus</i> Cam., p. 122. |
| Elytra pitchy, the apical margin red; abdomen with the posterior margin of the segments reddish. | <i>pulchellus</i> Kr., p. 136. |
| 56. Larger (8 mm.); elytra blue | <i>pæderoides</i> Motsch., |
| Smaller (5 mm.); elytra bicolorous . . | 57. [p. 114. |
| 57. Posterior margin of the thorax infuscate; first three (visible) abdominal segments red | [p. 121. |
| Thorax unicolorous, red; first four (visible) abdominal segments red . . . | <i>madurensis</i> Bernh., |
| 58. Elytra red, the base occasionally infuscate. Base of the anterior abdominal segments not more coarsely and closely punctured than elsewhere | <i>rufiventris</i> Cam., p. 122. |
| Elytra otherwise | 59.
61. |
| 59. Penultimate joints of antennæ transverse | 60. |
| Penultimate joints of antennæ as long as broad | 60 a. |
| 60. Head orbicular; 11th joint of antennæ orange-red | <i>fraternus</i> Cam., p. 121. |
| Head oval, narrow; antennæ with 11th joint concolorous | <i>pamirensis</i> Shp., p. 127. |
| 60 a. Larger (7 mm.); abdomen less closely punctured behind | [<i>cliens</i> Epp., p. 113. |
| Smaller (5.5-6.5 mm.); abdomen finely and closely punctured throughout . . . | <i>æneipennis</i> Boh. var. |
| | <i>quisquiliarius</i> Gyll. var. |
| | <i>inquinatus</i> Steph., |
| | p. 123. |

977 a. *Philonthus tricoloris*.

Philonthus tricoloris Schub.*, D. E. Z. 1908, p. 620; Gridelli Atti Mus. Civ. Stor. Nat. Trieste, xii, 1934, p. 74; id., Boll. Soc. Ent. Ital. lxviii, 1936, p. 150.

Shining; head and abdomen black, the latter with slight iridescent reflex; thorax bright red; elytra bright blue. Antennæ blackish-brown, the first two joints reddish. Legs reddish, the tibiæ more or less infuscate. Length 8–9 mm.

In size and build very like *pæderoides* Motsch. Head narrower than the thorax, subquadrate, the posterior angles rather broadly rounded, the eyes flat, distinctly shorter than the post-ocular region; median interocular punctures widely separated, in the middle of the front with a fine, short, impressed line; the post-ocular region and area between the eye and the neck with a few moderate punctures; ground-sculpture very feeble, transverse and wavy. Antennæ with the 3rd to 7th joints longer than broad, decreasing in length, the 8th to 10th as long as broad. Thorax slightly longer than broad, but little narrowed towards the front, the sides almost parallel; dorsal row of five rather small punctures, externally with three others, the ground-sculpture as on the head. Scutellum closely and roughly punctured. Elytra as long as but broader than the thorax, rather closely, moderately coarsely punctured on the disc, but more finely at the sides. Abdomen parallel, the first three segments moderately finely and closely punctured, the following gradually more sparingly and more finely.

♂: anterior tarsi dilated. Abdomen with shining triangular impression, the base of which is arcuately emarginate on the 6th ventral segment.

Himalayas: Palumbus (*type*); Garhi. Simla Hills; Kotgarh. Mussooree district.

VOL. IV.—PART I.

On p. 140, under Subgenus *Phænogyra* Muls. et Rey, for 1611. *Gyro-phæna* (*Phænogyra*) *ferruginea*, sp. n., read *Gyrophæna* (*Phænogyra*) *ferrugata*, sp. n.

On p. 364, under Subgenus *Liogluta* Thoms. (key), for *nimborum* read *montivaga*, and on p. 366, for 1884. *Atheta* (*Liogluta*) *nimborum*, sp. n., read *Atheta* (*Liogluta*) *montivaga*, sp. n.

In both these instances the specific names originally given, *ferruginea* and *nimborum*, are preoccupied by species in another subgenus.

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8. <i>rubricollis</i> , sp. n.	468	15. <i>nigriceps</i> <i>Kr.</i>	512
9. <i>trigonocephalus</i> , sp. n.	468	16. <i>bidentatus</i> <i>Bernh.</i>	512
10. <i>lineatocollis</i> <i>Kr.</i>	479	17. <i>siwalikensis</i> , sp. n.	513
11. <i>obliquus</i> <i>Bernh.</i>	470	18. <i>fulvus</i> <i>Motsch.</i>	514

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Subgen. <i>Cratædonia</i> Bernh.	515	32. <i>Porus</i> Westw.	549
19. <i>serraticornis</i> Kr.	515	1. <i>ochraceus</i> Westw.	549
Subgen. <i>Taprodonia</i> , nov.	516	33. <i>Pseudoporus</i> Wasm.	550
20. <i>nietneri</i> Kr.	516	1. <i>furcifer</i> Wasm.	550
Subgen. <i>Termitelia</i> , n.	517	34. <i>Doratoporus</i> Wasm.	551
21. <i>insignis</i> , sp. n.	517	1. <i>mendax</i> Wasm.	552
Subgen. <i>Glossacantha</i> Gemm. et		35. <i>Pedinopleurus</i> Cam.	553
Har.	518	1. <i>indicus</i> , sp. n.	554
22. <i>badius</i> Motsch.	520	2. <i>birmanus</i> , sp. n.	555
23. <i>sordidus</i> Kr.	521		
24. <i>humerosus</i> Motsch.	522	Tribe 12. HOPLANDRIINI	
25. <i>fasciatus</i> , sp. n.	522	<i>Fenyès</i>	555
26. <i>rubricollis</i> Kr.	522	1. <i>Tinotus</i> , <i>Shp.</i>	556
27. <i>armifrons</i> Epp.	523	1. <i>indicus</i> , sp. n.	557
28. <i>excisus</i> Kr.	524	2. <i>rufipennis</i> , sp. n.	558
29. <i>hoplonotus</i> Kr.	524	3. <i>kashmiricus</i> , sp. n.	559
30. <i>laidlawi</i> , sp. n.	526	4. <i>castaneus</i> , sp. n.	559
31. <i>heimi</i> Wasm.	527	5. <i>minutissimus</i> Kr.	559
32. <i>obscurus</i> F.	527	2. <i>Atacta</i> , gen. n.	560
33. <i>malabarensis</i> , sp. n.	529	1. <i>floralis</i> Bernh.	561
34. <i>peraffinis</i> , sp. n.	529		
35. <i>kumaonensis</i> , sp. n.	530	Tribe 13. PHLEOPORINI, nom. n.	562
36. <i>fraternus</i> , sp. n.	530	1. <i>Phleopora</i> Er.	563
37. <i>reversus</i> , sp. n.	530	1. <i>himalayica</i> , sp. n.	564
38. <i>forticornis</i> Fav.	532	2. <i>montana</i> , sp. n.	565
Subgen. <i>Zyras</i> , s. str., <i>Steph.</i>	532	3. <i>ceylanensis</i> , Kr.	566
39. <i>optimus</i> , sp. n.	534	4. <i>granulicauda</i> , sp. n.	566
40. <i>rufescens</i> , sp. n.	534	2. <i>Chilopora</i> Kr.	567
41. <i>hirtus</i> Kr.	535	Subgen. <i>Chilopora</i> , s. str.	568
42. <i>perforatus</i> Champ.	535	1. <i>indica</i> Cam.	568
43. <i>kraatzii</i> Schub.	536	2. <i>ripicola</i> , sp. n.	569
44. <i>exasperatus</i> Schub.	536	3. <i>germana</i> , sp. n.	569
45. <i>championi</i> , sp. n.	537	4. <i>subcyanea</i> , sp. n.	570
46. <i>nilgiriensis</i> , sp. n.	537	5. <i>fuscobrunnea</i> , sp. n.	570
47. <i>gardneri</i> , sp. n.	538	Subgen. <i>Tetralaucopora</i>	
48. <i>proximus</i> , sp. n.	538	<i>Bernh.</i>	568, 570
49. <i>hastatus</i> Fav.	539	6. <i>championi</i> , sp. n.	570
50. <i>castaneus</i> Motsch.	539	3. <i>Parapimela</i> , gen. n.	571
51. <i>geminus</i> Kr.	540	1. <i>indica</i> , sp. n.	572
52. <i>distinctus</i> , sp. n.	540	2. <i>persimilis</i> , sp. n.	572
53. <i>ferrugineus</i> , sp. n.	541	3. <i>assamensis</i> , sp. n.	573
54. <i>hirsutiventris</i> Champ.	542	4. <i>Amarochara</i> Thoms.	573
55. <i>pindaræ</i> Champ.	542	Subgen. <i>Lasiochara</i> Ganglb.	573
56. <i>ruficauda</i> , sp. n.	543	1. <i>simlaensis</i> , sp. n.	574
57. <i>nigroæneus</i> , sp. n.	543	2. <i>heterogaster</i> , sp. n.	575
Subgen. <i>Pella</i> Steph.	544	3. <i>sororcula</i> , sp. n.	575
58. <i>ceylonicus</i> , sp. n.	544	5. <i>Ocalea</i> Er.	575
59. <i>kuluensis</i> , sp. n.	545	Subgen. <i>Ocalea</i> , s. str.	576
60. <i>coloratus</i> , sp. n.	545	1. <i>badia</i> , Er.	577
Subgen. <i>Zyraetibus</i> , nov.	546	2. <i>simlaensis</i> , sp. n.	578
61. <i>almorensis</i> , sp. n.	546	3. <i>himalayica</i> , sp. n.	578
Subgen. <i>Rhopalodonia</i> , nov.	546	4. <i>championi</i> , sp. n.	579
62. <i>clavicornis</i> Kr.	546	5. <i>submetallica</i> , sp. n.	579
63. <i>trisulcatus</i> Wasm. (sub-		Subgen. <i>Tetrocalea</i> , nov.	576
gen. dub.)	547	6. <i>rufobrunnea</i> , sp. n.	579
31. <i>Acanthastilbus</i> , gen. n.	548		
1. <i>andrewesianus</i> , sp. n.	548		

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2. <i>colorata</i> , sp. n.	583
8. <i>Ocyusa Kr.</i>	583
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4. <i>himalayica</i> , sp. n.	587
5. <i>læta</i> , sp. n.	587
6. <i>beesoni</i> , sp. n.	588
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9. <i>musculicola</i> , sp. n.	589
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2. <i>assamensis</i> , sp. n.	593
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1. <i>himalayica</i> , sp. n.	596
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2. <i>morosa</i> , sp. n.	597
Subgen. <i>Podoxya Muls. et Rey.</i> ..	598
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4. <i>montivaga</i> , sp. n.	600
5. <i>uniformis</i> , sp. n.	601
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8. <i>masuriana</i> , sp. n.	602
9. <i>nigrita</i> , sp. n.	602
10. <i>proxima</i> , sp. n.	603
11. <i>atrata</i> , sp. n.	603
12. <i>subsericea</i> , sp. n.	603
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13. <i>beesoni</i> , sp. n.	604
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2. <i>andrewesi Fauv.</i>	627
3. <i>postica Walk.</i>	627
4. <i>hindustana Motsch.</i> ..	628
5. <i>nigrolucens</i> , sp. n.	628
6. <i>croceipennis Motsch.</i> ...	629
var. <i>maculipennis Kr.</i> ..	629
Subgen. <i>Heterochara Muls. et</i> <i>Rey</i>	629
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8. <i>brunneiventris Kr.</i> ..	630
Subgen. <i>Euryodma Reitt.</i>	631
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14. <i>trivialis Kr.</i>	635
15. <i>parva</i> , sp. n.	635
Subgen. <i>Isochara Bernh.</i>	636
16. <i>tristis Gr.</i>	636
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18. <i>denticulata Motsch.</i> ..	638
19. <i>punctiventris Kr.</i>	638
20. <i>rutilipennis Kr.</i>	639
21. <i>germana</i> , sp. n.	640

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Subgen. <i>Homœochara</i> <i>Muls. et</i>		5. <i>Maseochara</i> <i>Shp.</i>	657
<i>Rey</i>	640	1. <i>horni</i> <i>Bernh.</i>	658
22. <i>sparsa</i> <i>Heer</i>	640	2. <i>javana</i> <i>Fauv.</i>	659
23. <i>pallidipennis</i> , sp. n. . .	641	6. <i>Tetrasticta</i> <i>Kr.</i>	659
Subgen. <i>Mesochara</i> , nov. . . .	642	1. <i>polita</i> <i>Kr.</i>	660
24. <i>almorensis</i> , sp. n. . . .	642	2. <i>mendosa</i> , sp. n.	661
25. <i>inornata</i> , sp. n.	643	3. <i>assamensis</i> , sp. n. . . .	661
Subgen. <i>Polychara</i> <i>Muls. et</i>		7. <i>Paraleochara</i> <i>Cam.</i>	662
<i>Rey</i>	643	1. <i>translata</i> <i>Walk.</i>	663
26. <i>asiatica</i> <i>Kr.</i>	644	8. <i>Pseudoplandria</i> <i>Fenyès</i> . . .	664
27. <i>viatica</i> <i>Fauv.</i>	645	1. <i>splendida</i> , sp. n.	667
28. <i>confusa</i> , sp. n.	645	2. <i>nigra</i> , sp. n.	667
29. <i>dohertyi</i> , sp. n.	645	3. <i>nigrata</i> , sp. n.	668
30. <i>beesoni</i> , sp. n.	646	4. <i>nilgiriensis</i> , sp. n. . . .	669
31. <i>himalayica</i> , sp. n. . . .	646	5. <i>punctiventris</i> , sp. n. . .	669
32. <i>aerata</i> , sp.	647	6. <i>masuriana</i> , sp. n. . . .	669
33. <i>cuniculorum</i> <i>Kr.</i>	647	7. <i>coylonica</i> , sp. n.	670
34. <i>incerta</i> <i>Epp.</i>	648	8. <i>fraterna</i> , sp. n.	670
35. <i>tuberiventris</i> <i>Kr.</i> (sub-		9. <i>siwalikensis</i> , sp. n. . . .	671
gen. dub.)	649	10. <i>brevicornis</i> , sp. n. . . .	671
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<i>Rey</i>	649	12. <i>madrasiensis</i> , sp. n. . . .	672
36. <i>bipustulata</i> <i>L.</i>	650	13. <i>gratella</i> , sp. n.	673
37. <i>bilineata</i> <i>Gyll.</i>	651	14. <i>indica</i> , sp. n.	673
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1. <i>montivaga</i> , sp. n.	652	16. <i>andrewesi</i> , sp. n.	674
2. <i>simlaensis</i> , sp. n.	652	17. <i>dohertyi</i> , sp. n.	674
3. <i>Creochara</i> , gen. n.	653	18. <i>fuscipennis</i> <i>Kr.</i>	674
1. <i>brevipennis</i> <i>Bernh.</i> . . .	654	9. <i>Gonionycha</i> , gen. n.	675
4. <i>Mycetochara</i> , gen. n.	655	1. <i>indica</i> , sp. n.	676
1. <i>basiventris</i> , sp. n. . . .	657	2. <i>assamensis</i> , sp. n. . . .	677

Subfamily XIII. **PSEUDOPERINTHINÆ**, nov.

Head with a sharp curved margin, convex in front and reaching behind to the posterior margin of the eyes, these and

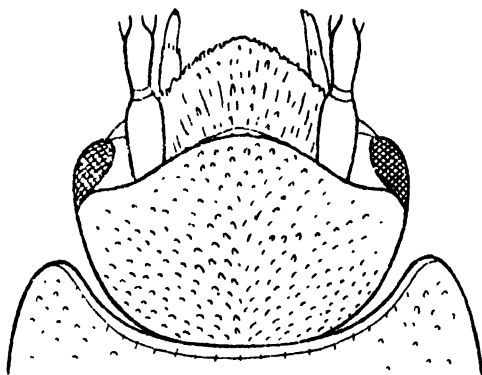


Fig. 1.—*Pseudoperinthus fletcheri*, head.

the insertion of the antennæ situated below the level of this, the clypeal region depressed. Tarsi 4, 5, 5.

Genus **PSEUDOPERINTHUS** Wasm.

Pseudoperinthus Wasm., Zool. Jahrb. xxxix, 1916, p. 194 (tab. 4, fig. 16, a, b; tab. 5, fig. 16, c-h).

In facies much resembling a *Myllæna* with short elytra, and placed by the author amongst the Aleocharinæ; the build of the head, however, is very different from that found in that subfamily, more like that of *Pygostenus* or to a less extent the Oxytelinæ. Head small, transversely oval, inserted in the thorax up to the small eyes, in front with a sharp curved margin convex forwards, extending between the posterior borders of the eyes, these and the insertion of the antennæ situated below this margin; the clypeal region depressed. Temples not bordered below, the gular sutures widely separated. Antennæ 11-jointed. Labrum transverse,

rounded in front. Mandibles moderate, curved, pointed, feebly sinuate internally, the external border with a constriction at the middle. Maxillæ with the outer lobe a little longer than the inner, membranous, ciliate at apex; inner lobe narrow, corneous, pointed, and with 7 or 8 spines internally. Maxillary palpi with small 1st joint, 2nd elongate, gradually thickened towards apex, 3rd longer than the 2nd and stouter at the apex, 4th subulate, fully half as long as the 3rd. Mentum transverse, trapezoidal, the anterior border scarcely emarginate. Labial palpi 2-jointed, the 1st joint elongate, slightly curved, before the apex on the inner border with a notch, 2nd narrower and more than half the length of the

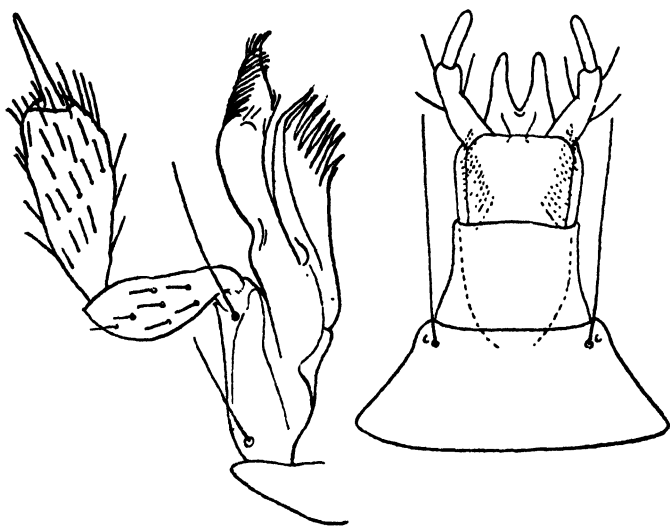


Fig. 2.—*Pseudoperinthus fletcheri*, maxilla and labium.

preceding, gradually pointed †. Tongue broad at the base, divided into two triangular lobes. Paraglossæ distinct, not extending beyond the base of the tongue. Thorax transverse, convex, the anterior border broadly and slightly emarginate; pronotal epipleura wanting. Prosternum articulated considerably behind the rounded anterior angles of the pronotum as in the *Quediini*, its anterior part very short, the posterior deflexed part rounded behind. Mesosternal process very narrow and elongate, meeting the metasternum, the middle coxæ contiguous. Elytra not emarginate postero-externally,

† I am unable to see the minute terminal joint described by Wasmann in any of my preparations.

extending a little beyond the epimera of the metasternum, the epipleura separated from the dorsal surface by a ridge. Legs rather short, the anterior coxæ as long as the femora, the middle rounded. Tibiæ slender, without spines. Tarsi 4, 5, 5; the anterior with the first three joints short and subequal, the 4th as long as the preceding three together; middle with the 1st joint as long as the 5th, 2nd, 3rd, and 4th gradually shorter; posterior with the 1st joint rather long, half as long again as the 2nd, 3rd and 4th gradually shorter. Claws slightly curved. All the femora sulcate internally at apex. Abdomen fusiform, bordered, slightly narrowed at the base, more strongly at apex, the tergites not transversely impressed; first sternite a good deal longer than the 2nd.

This genus cannot be included in the Aleocharinæ on account of the structure of the head; it has affinity with the Quediini in the relation of the prosternum to the anterior angles of the pronotum, and it is necessary to establish a subfamily—the Pseudoperinthinæ.

1441. *Pseudoperinthus fletcheri*, sp. n.

Rather shining, yellowish-red, the elytra more or less infusate. Antennæ and legs reddish-yellow. Length 1.75 mm.

Fusiform, convex, narrowed in front, more strongly behind. Head much narrower than the thorax and inserted in it up to the eyes, convex, closely, extremely finely and obsoletely punctured and with a very short fine yellow pubescence. Antennæ with the 2nd joint scarcely shorter than the 1st, 3rd a little shorter than the 2nd, 4th a little shorter than the 3rd, cylindrical, 5th to 7th about twice as long as broad, cylindrical and equal amongst themselves, the 5th a little longer than the 4th, 8th to 10th gradually shorter, the 10th very slightly longer than broad, the 11th about as long as the two preceding together. Thorax transverse (4.5:3), widest behind at the broadly rounded posterior angles, the sides very slightly rounded and feebly retracted to the broadly rounded anterior angles, the anterior border broadly and slightly emarginate, the sculpture and pubescence similar to that of the head, the sides with three or four long setæ. Elytra as long as but narrower than the thorax, the base overlapped by it, the puncturation close and extremely fine but less obsolete than on the head and thorax, the pubescence similar, the sides with two or three setæ. Abdomen acuminate behind, closely and finely punctured and pubescent, the pubescence much longer and coarser than on the fore-parts.

Coorg, Mercara; with a species of *Eutermes* (*T. B. Fletcher*).

Subfamily XIV. ALEOCHARINÆ.

- Aleocharinæ* Sharp, B. C.-A. i, 2, 1882-87 (1883), p. 145; Olliff, Proc. Linn. Soc. N. S. Wales (2), i, 1886, p. 407; Fowler, Col. Brit. Isl. ii, 1888, pp. 7-8; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 17; Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, p. 126; Reitter, Faun. Germ. ii, 1909, p. 16; Blatchley, Col. Indiana, i, 1910, p. 336; Fenyès, Gen. Ins. 173 A, 1918, p. 1. Cam., Trans. Ent. Soc. Lond. 1920, p. 348; Portevin, Encycl. Ent. A xii, 1929, i, p. 225, fig. 227; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 68.
- Aleocharidæ* Schuckard, El. Brit. Ent. i, 1839, p. 125; Motsch., Stett. Ent. Zeit. v, 1844, p. 88; Deville, Faun. Bassin de la Seine, 1907, p. 6.
- Aleocharides* Mannerh., Mém. Acad. Sci. St. Petersb. i, 1830, p. 425; Lacord., Gen. Col. ii, 1854, p. 27.
- Aleocharini* Er., Kaf. Mark Brand. i, 1837-39, p. 283; id., Gen. Spec. Staph. 1839-40, p. 33; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 18; J. Leconte, Class. Col. N. Amer. 1861-73, p. 60; Fauv., Bull. Soc. Linn. Norm. x, 1864-65, p. 254; id., Faun. Gallo-rhén. iii, 1872, p. 620; Redtb., Faun. Austriaca, ed. iii, 1874, p. 128; Lynch Arribalzaga, Bol. Acad. Cienc. Cord. vii, 1884, p. 17; Johansen, Danmarks Rovbiller, 1914, p. 13.
- Aleocharites* Blanch., Hist. Nat. Ins. i, 1845, p. 295; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 2.
- Aleocharii* Fairm. et Laboulb., Faun. Ent. Fr. i, 1854, p. 370.
- Aleocharina* Thoms., Skand. Col. ii, 1860, p. 238.
- Aléochariens* Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 3.

This subfamily contains many genera varying much in the structure of the mouth-parts and tarsi. It is distinguished

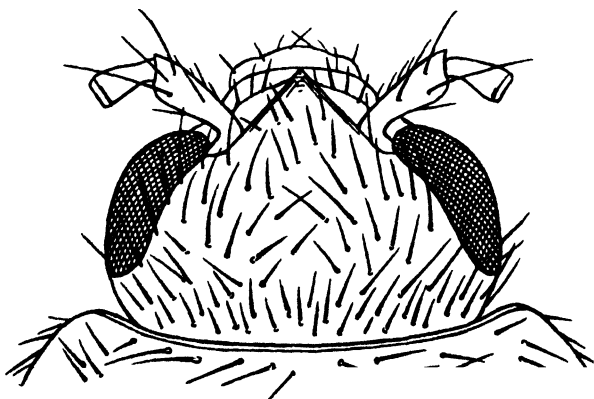


Fig. 3.—*Aleochara postica*, head.

by the antennæ being freely inserted on the front of the head internal to the eyes; they are usually 11-jointed.

Key to the Tribes.

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|------------------------------------------------------------------|--------------------------------|
| 1. Antennæ 10-jointed ; tarsi 4-jointed | Oligotini , p. 31. |
| Antennæ 11-jointed | 2. |
| 2. Tarsi 1, 1, 5 | Dimonomerini , p. 14. |
| Tarsi otherwise | 3. |
| 3. Tarsi 3, 3, 3 | Deinopsini , p. 12. |
| Tarsi otherwise | 4. [p. 36.] |
| 4. Tarsi 3, 4, 4 | Eusteniamorphini , |
| Tarsi otherwise | 5. |
| 5. Tarsi 4, 4, 4 | Hygronomini , p. 38. |
| Tarsi otherwise | 6. |
| 6. Tarsi, 4, 4, 5 | 7. |
| Tarsi otherwise | 8. |
| 7. Head produced in front ; densely pubescent species | Myllæniini , p. 15. |
| Head not produced | Bolitocharini , p. 47. |
| 8. Tarsi 4, 5, 5 | 9. |
| Tarsi 5, 5, 5 | 13. |
| 9. Maxillary palpi 4-jointed | 10. |
| Maxillary palpi 5-jointed ; labial palpi 4-jointed | Hoplandriini , p. 555. |
| 10. Head produced in front | Pronomæini , p. 29. |
| Head not produced (except in some <i>Zyras</i>). | 11. |
| 11. Head strongly deflexed, concealed by the pronotum | Leucocraspedini , p. 5. |
| Head not concealed by the pronotum | 12. |
| 12. Inner lobe of maxilla entirely corneous | Masuriini , p. 24. |
| Inner lobe of maxilla membranous internally. | Myrmedonini , p. 232. |
| 13. Maxillary palpi 4-jointed ; labial palpi 3-jointed | [p. 562.] |
| Maxillary palpi 5-jointed ; labial palpi 4-jointed | Phlæoporini , nom. n., |
| | Aleocharini , p. 622. |

Tribe 1. LEUCOCRASPEDINI.

Leucocraspedini Fenyès, Bull. Mus. Comp. Zool. Cambridge, Harvard Coll. lxx, 1921, p. 134.

This tribe contains at present only a single genus, *Leucocraspedum*.

Genus **LEUCOCRASPEDUM** Kr.

Leucocraspedum Kr., Arch. Naturg. xxv, 1859, i, p. 51 (Sept.) ; Olliff, Proc. Linn. Soc. N. S. Wales, i, 1886, p. 903 ; Fenyès, Gen. Ins. 173 B, 1920, p. 314 ; Fauv., Rev. d'Ent. xiv, 1895, p. 285 (note).

Barronica Blackb., Trans. Roy. Soc. S. Austr. xix, 1895, p. 202.

Euryglossa Motsch., Étud. Ent. viii, 1859, p. 82 (Jan.) (præoc.).

This genus is at once distinguished by the head being strongly deflexed and concealed by the pronotum, the sides of which are rounded, strongly retracted in front, and continuous in an unbroken curve with the rounded anterior border. The facies in other respects somewhat resembles *Onosoma*, being narrowed in front and behind and rather convex. Head small, transversely suborbicular, gular sutures

widely separated, the temples margined below, the eyes large but not prominent. Antennæ 11-jointed, slender at the base and thickened towards the apex. Labrum transverse, chitinous, the sides rounded, the anterior border broadly and feebly emarginate, the emargination filled in by a membrane, finely and sparingly setiferous. Mandibles small, pointed, the right with two small teeth near the middle. Maxillary palpi with the 1st joint very small, 2nd curved, a little thickened towards the apex, the 3rd gradually and slightly thickened from base to apex, a little longer than the preceding, 4th subulate, much narrower and about half as long as the 3rd. Outer and inner lobes of the maxilla narrow, of equal length, pointed, curved inwards at the apices, the outer with some fine hairs at apex, and with a minute tooth at the outer side of the base, the inner furnished with a row of fine spines. Mentum transverse, trapezoidal, the anterior border truncate. Labial palpi 2-jointed, the 1st joint stout, the 2nd narrower and shorter than the 1st. Tongue small, short and broad, the apex rounded, the paraglossæ scarcely extending beyond it. Prosternum short, transverse, the posterior deflexed part sometimes absent. Pronotal epipleura strongly reflexed, not visible from the side. Mesosternum and its process finely carinate, the latter acute, extending the whole length of the coxæ, these narrowly separated. Scutellum concealed. Elytra sinuate internally at the postero-external angles. Abdomen sharply bordered, strongly narrowed from base to apex, the bases of the segments without transverse impressions, the sides with long setæ. Legs rather long, the middle and posterior tibiæ each with a black seta externally near the middle. Tarsi 4, 5, 5†; the anterior with the first three joints short and subequal, middle and posterior with the 1st joints elongate, as long as the three following together, these subequal, the 5th as long as the preceding two together. Claws lightly curved. The genus is found only in the Oriental and Australian regions, extending as far as Japan. The species are found in damp situations, in moss and on decaying tree-trunks.

Key to the Species.

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| 1. At least the head and thorax red or reddish-yellow | 2. |
| Head and thorax otherwise | 5. |
| 2. Elytra entirely reddish-yellow | <i>dilutum</i> Bernh., p. 11. |
| Elytra otherwise | 3. |
| 3. Elytra red, the apical margin yellow | <i>rufum</i> Fauv., p. 11. |
| Elytra in great part black or brown | 4. |
| 4. Elytra blackish, obscurely reddish along the suture; larger and more robust species; abdomen black | <i>andrewesi</i> , sp. n., p. 10. |

† Not 5, 5, 5 as stated by Kraatz.

- Elytra blackish, the base broadly, the suture, apical margin and sides narrowly reddish-yellow; smaller and narrower species; abdomen red [p. 9.
nigromaculatum Cam, 6.
5. Elytra uniformly coloured, black or brown. 8.
- Elytra with the posterior margin more or less distinctly lighter 7.
6. Penultimate joints of the antennæ distinctly transverse
Penultimate joints of the antennæ fully as long as broad *fuscatum*, sp. n., p. 10.
7. Larger, blacker; legs pitchy-yellow; setæ of abdomen weaker *scorpio* Blackb., p. 7.
- Smaller, browner; legs yellow; setæ of abdomen stronger *obscurum*, sp. n., p. 10.
8. Intermediate joints of antennæ scarcely transverse; legs pitchy, sides of thorax obscurely yellow
Intermediate joints of antennæ transverse; legs clear yellow *plumbeum* Fauv., p. 8.
9. Thorax with the side-margins broadly, the posterior margin of the elytra narrowly, yellow [p. 8.
Thorax with the side-margins less broadly yellow *flavocinctum* Motsch., 10.
10. Elytra with the posterior margin broadly yellow *limbatum* Cam., p. 11.
- Elytra with the posterior margin narrowly and obscurely lighter *horni* Bernh., p. 9.

1442. *Leucocraspedum scorpio*.

Barronica scorpio Blackb., Trans. Roy. Soc. S. Austr. xix, 1895, p. 203.

Leucocraspedum nigrum Cam., Trans. Ent. Soc. Lond. 1919, p. 243.

Black, convex, pointed posteriorly, shining, finely and closely pubescent; antennæ short, testaceous-yellow, the last two joints infusate; legs pitchy-testaceous. Length 2-3 mm.

Head transverse, deflexed, shining, scarcely visibly punctured; eyes rather large. Antennæ short, the 1st and 2nd joints of equal length, the 3rd shorter and narrower than the 2nd, the 4th and 5th decreasing in length, a little longer than broad, the 6th to the 10th gradually more strongly transverse, the 11th elongate, nearly equal to the preceding three together. Palpi testaceous. Thorax transverse, considerably narrowed in front, the sides passing insensibly into the convex anterior margin, widened behind, the posterior angles a little prominent, rectangular, the base bisinuate; punctuation very fine and close; pubescence fine and close, greyish; scutellum concealed by the thorax, which overlaps the base of the elytra. Elytra shorter than the thorax (measured along the suture), of the same length measured from the base, transverse, a little emarginate internal to the postero-external angles, obliquely

truncate to the suture; puncturation very fine and close, but not so fine as that of the thorax; pubescence fine and close. Abdomen elongate, strongly pointed posteriorly, uniformly punctured similarly to the elytra and with similar pubescence; the sides and apex with long black setæ, the dorsal surface with a row of erect setæ on either side. This species varies much in breadth, some examples being only about half as wide as others.

Ceylon: Kandy. India: Dehra Dun, Mussooree, Chakrata district, altitude 2400–7000 feet; W. Almora. Also in S. Australia, Java, Singapore and the Philippines.

1443. *Leucocraspedum plumbeum*.

Leucocraspedum plumbeum Fauv., Rev. d'Ent. xxii, 1903, p. 160.

Rather large, shining, the elytra somewhat dull, the first three or four joints of the antennæ, the margins of the thorax more obscurely, the suture and apical margin of the elytra, anus, knees and tarsi testaceous, femora pitchy, tibiæ brown. Antennæ long, rather stout, a little thickened apically, the 3rd to 9th joints scarcely, 10th slightly transverse, 11th broader and longer than the preceding two together. Head depressed, extremely finely, moderately closely punctured; the eyes large. Thorax broad, a third wider than long, semilunar, convex, the base distinctly bordered, a little sinuate on each side, the posterior angles scarcely obtuse, the puncturation as on the head, rather closely covered with fuscous pubescence. Elytra longer than the thorax, quadrate, less convex, more strongly, very closely and finely sculptured and having a scaly appearance. Abdomen more strongly and more sparingly sculptured, the sculpture reticulate, the 7th segment at the apex above slightly arcuately emarginate. Length 2–2.5 mm.

Coonor. Ceylon: Maturata (ex *Fauvel*).

1444. *Leucocraspedum flavocinctum*.

Euryglossa flavocincta Motsch., Ét. Ent. viii, 1859, p. 84, tab. 1, fig. 8 (Jan.).

Leucocraspedum pulchellum Kr., Arch. Naturg. xxv, 1859, i, p. 53, tab. 1, fig. 12 (Sept.).

Shining, black or pitchy-black, the head more or less reddish in front, the thorax yellow with a large blackish spot along the middle, the apical margin of the elytra (and sometimes the suture) narrowly yellow, the posterior margin of the 7th segment more or less yellowish. Antennæ yellow. Legs reddish-yellow. Length 1.75 mm.

Rather robust and convex. Head extremely finely, sparingly punctured. Antennæ slender, thickened towards the apex, the first three joints elongate, 4th and 5th a little longer than

broad, 6th about as long as broad, 7th to 10th slightly transverse, 11th oval, about as long as the three preceding together. Thorax strongly transverse, semilunar, the base bisinuate, embracing the elytra, the posterior angles acute, produced backwards, extremely finely, moderately closely punctured. Elytra a little longer than but as broad as the thorax, less finely and more closely punctured. Abdomen conical, finely, not very closely punctured, the sides with black outstanding setæ, the apical margins of the first four visible segments near the sides with a stout erect black seta. Pubescence of the fore parts fine and yellow, that of the abdomen longer and coarser. Occasionally the marking on the thorax is obsolete behind and the ventral surface of the abdomen at the base and sides reddish.

Ceylon : Dikoya, alt. 3800–4200 feet (*Lewis*).

1445. *Leucocraspedum nigromaculatum*.

Leucocraspedum nigromaculatum Cam., E. M. M. liv, 1918, p. 218.

Leucocraspedum nigromaculatum Cam., var. *obsoletum* Cam., E. M. M. lvi, 1920, p. 50.

Rather shining, reddish-testaceous, the elytra blackish, the base broadly, the suture, apex and sides narrowly reddish-testaceous, the 2nd abdominal segment with indeterminate black spot in the middle ; antennæ and legs reddish-testaceous, the last joint of the former blackish. Length scarcely 2 mm.

Var. *obsoletum*. The dark marking of the elytra reduced to a more or less obscure and indeterminate fuscous patch.

Of about the size and build of *pulchellum* Kr. Antennæ with all the joints to the 7th longer than broad, 8th to 10th transverse, 11th as long as the preceding two together. Thorax very finely and rather closely punctured, the pubescence yellow. Elytra transverse, as long as the thorax, finely and closely punctured, the pubescence yellow. Abdomen pointed, finely and closely punctured and pubescent, more sparingly on the last two segments.

Ceylon : Kandy. The variety is from Bogawantalawa, alt. 4900–5200 feet. India : Nilgiri Hills (*Andrewes*). Also from Penang.

1446. *Leucocraspedum horni*.

Leucocraspedum horni Bernh., Ent. Blatt. xi, 1915, p. 256.

Differs from *pulchellum* Kr. by the small size, different coloration, which is more uniform, the thorax and elytra brownish, the sides and posterior angles of the former and the posterior margin of the latter only indistinctly lighter ; the abdomen is blackish. The pubescence is much thicker than in *plumbeum* Fauv. The thorax is less short and less broad

than in *pulchellum*, exactly the width of the elytra, finely and quite four times as closely punctured, rather dull. The elytra are shorter, much more finely and much more thickly but otherwise similarly punctured to the thorax, duller; lastly the abdomen is distinctly more closely punctured. Length 1 mm.

Ceylon : Weligama (*Horn*) (ex *Bernhauer*).

1447. *Leucocraspedum obscurum*, sp. n.

Moderately shining, dark reddish-brown, the abdomen black, with the posterior margins of the segments narrowly reddish. Antennæ reddish-yellow, the 11th joint pitchy. Legs reddish-yellow. Length 1.75 mm.

In size and build scarcely differing from *pulchellum*, but differently coloured and with shorter elytra and antennæ, the former only as long as the thorax, the 5th to 10th joints all distinctly transverse; the puncturation throughout is closer.

Andaman Islands : Port Blair (*Cameron*).

1448. *Leucocraspedum fuscatum*, sp. n.

Moderately shining, light reddish-brown, the elytra and abdomen infusate, the latter with the posterior margins of the segments narrowly reddish-yellow. Antennæ reddish-yellow, the last joint blackish. Legs reddish-yellow. Length 1.75 mm.

Size of *pulchellum* but a little narrower, differently coloured, with thicker pubescence and longer antennæ, the 4th to 9th joints longer than broad, gradually decreasing in length, the 10th as long as broad, the 11th a little longer than the preceding two together; puncturation throughout a good deal closer, the elytra as long as the thorax.

Nilgiri Hills (*Andrewes*).

1449. *Leucocraspedum andrewesi*, sp. n.

Moderately shining; head and thorax bright red, elytra blackish-brown, scarcely perceptibly reddish along the suture, abdomen black, the posterior margins of the segments narrowly yellowish, that of the 7th more broadly. Antennæ reddish-yellow, the 11th joint pitchy. Legs reddish-yellow. Length 2 mm.

Larger than *pulchellum*, differently coloured, the antennæ a little longer, the 4th to 10th joints gradually decreasing in length, the 10th slightly transverse; thorax with the sides less rounded, more strongly obliquely retracted towards the front, the posterior angles less prominent, briefly rounded,

the puncturation scarcely differing. Elytra as long as the thorax, the sculpture rather less fine than in *pulchellum*, abdomen more closely punctured and with shorter setæ than in that species. Would appear to be near *rufum*.

Nilgiri Hills (*Andrewes*).

1450. *Leucocraspedum limbatum*.

Leucocraspedum limbatum Cam., E. M. M. Ivi, 1920, p. 49.

Narrow, elongate, acuminate posteriorly, pitchy-black, shining; antennæ, legs, lateral margins of the thorax, posterior third of the elytra and last two abdominal segments testaceous-yellow. Length about 2 mm.

Differs from *pulchellum* Kr. in the distinctly narrower and less robust build the posterior angles of the thorax less produced behind, the sides less broadly yellow, the elytra distinctly less transverse and more broadly bordered with yellow, the last two segments of the abdomen entirely yellow, and the puncturation of the thorax less close.

Ceylon: Dikoya, alt. 3800–4200 feet (*G. Lewis*). British Museum Collection.

1451. *Leucocraspedum rufum*.

Leucocraspedum rufum Fauv., Rev. d'Ent. xiv, 1893, p. 285.

A third larger than *pulchellum* Kr., much broader in front, more convex, shining, red, the black setæ shorter, rather closely covered with yellow pubescence, elytra a little shining and with yellow apical border, the bases of the segments broadly ferruginous-red, the 7th yellow. Antennæ with the 11th joint pitchy, the 3rd to 10th joints rather long, slightly decreasing in length, yet with the 10th a little longer than broad. Thorax strongly transverse, more strongly and obliquely narrowed in front than in *pulchellum*, the sides less rounded. Elytra much shorter, more transverse, almost twice as closely punctured. Abdomen, especially the base, about three times more closely punctured, the 7th segment above with the apex very slightly emarginate. Length 3–3.25 mm.

Burma: Carin Ascinii Ghécu, alt. 1400–1500 m., iii., iv. (*L. Fea*). Also in Java (ex *Fauvel*).

1452. *Leucocraspedum dilutum*.

Leucocraspedum dilutum Bernh., Arch. Naturg. lxxxviii, 1922, p. 82.

Shining; head, thorax, and elytra reddish-yellow, abdomen black. Antennæ yellow, the last joint blackish. Legs yellow. Length 1.8–3 mm.

At once distinguished by the colour. Antennæ with the 5th to 10th joints transverse, gradually increasing in width, the 11th stout. Thorax extremely finely, moderately closely punctured. Elytra as long as but broader than the thorax, finely, rather closely, roughly punctured. Abdomen pointed, finely and closely punctured throughout, the pubescence greyish, rather long and coarse, the sides with black setæ, pubescence of the fore parts finer and yellow.

Kumaun, W. Phatkot, alt. 4000 feet (*Champion*). Also in Formosa.

Tribe 2. DEINOPSINI.

Deinopsini Sharp, B. C.-A. i, 2, 1882-87 (1883), p. 294; Fenyès, Gen. Ins. 173 A, 1918, pp. 17, 50; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 68.

Dinopsini Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 323; Reitter, Faun. Germ. ii, 1909, p. 89; Blatchley, Col. Indiana, i, 1910, p. 337; Portevin, Encycl. Ent. A, xii, 1929, i, pp. 227, 314.

Consists only of a single genus, *Deinopsis* Matth.

Genus **DEINOPSIS** Matth.

Deinopsis Matth., Ent. Mag. v, 1838, p. 193; Fairm. et Laboulb., Faun. Ent. Fr. Col. i, 1854, p. 470; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 21; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 28; Blatchley, Col. Indiana, i, 1910, p. 337; Fenyès, Gen. Ins. 173 A, 1918, p. 50.

Dinopsis Kr., Linn. Ent. ii, 1857, p. 37; id., Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 374; Gemm. et Har., Cat. Col. ii, 1868, p. 551; Fauv., Faun. Gallo-rhén. iii, 1872, p. 622; Sahlb., Act. Soc. Faun. Flor. Fenn. i, 1876, p. 69; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 323; Reitt., Faun. Germ. ii, 1909, p. 89.

Facies somewhat resembling *Myllæna*, closely and finely pubescent, broader in front, narrowed behind. Head somewhat broadly produced in front, the neck stout, the base coarctate with the temples and concealed by the thorax; gular sutures widely separated, diverging behind, the gular plate convex, temporal ridge absent. Labrum strongly transverse, more than twice as broad as long, the anterior margin feebly rounded and very indistinctly crenulate, finely and sparingly ciliate. Mandibles rather long and slender, slightly curved, acutely pointed, and with two very large acute teeth and a feebly chitinized serrated lobe at the base. Maxillary palpi long, the 1st joint small, the 2nd long and slender, slightly thickened towards the apex, 3rd almost as long as the 2nd, more dilated towards apex, 4th minute, membranous, subulate. Both lobes of the maxilla long and slender, corneous, the outer lobe with dense hairs at the apex, the inner with pointed incurved apex, the inner margin

in the apical half with a few unequal teeth, of which the most posterior is the longest. Mentum transverse, trapezoidal, truncate in front and with the anterior angles acutely produced. Labial palpi straight, 3-jointed, the 1st joint elongate, cylindrical, the 2nd a little narrower and much shorter, the 3rd membranous, about half as long as the preceding, subulate. Tongue large, membranous, as long as the 1st joint of the labial palpi, split almost to the base into two slightly diverging lobes with rounded apices. Paraglossæ apparently wanting. Prothorax strongly transverse, the sides rounded, retracted in front, the anterior border truncate or feebly rounded, the base bisinuate. Pronotal epipleura strongly reflexed, not visible from the side. Anterior part of the prosternum with acute projection behind, the deflexed portion rounded behind. Mesosternum with very narrow process, carinate, extending the whole length of the coxæ, these very narrowly separated. Scutellum concealed. Elytra emarginate internal to the postero-external angles. Abdomen margined above, the segments not transversely impressed at their bases, the posterior margins of the first four visible segments very closely and very finely pectinate, the apex with a pair of styliform processes. Legs slender, the anterior tibiæ externally with two distinct spines, one a little below the middle, the other near the apex, middle tibiæ with four spines externally, one at the middle, one before the apex, and a pair at the apex, the posterior with a rather long spine at the apex externally. Tarsi all 3-jointed, the first two joints rather short, the 3rd longer than the 1st and 2nd joints together. Claws slightly curved, each with a small tooth near the middle.

The genus is found throughout the world in damp places by marshes and streams. Only one species is known in our Fauna.

1453. *Deinopsis cinnamomea*.

Dinopsis cinnamomea Kr., Arch. Naturg. xxv, 1859, i, p. 51.

Somewhat depressed, narrowed behind, scarcely shining, light cinnamon-brown, the abdomen sometimes a little darker, the posterior margins of the first four visible segments very narrowly and sharply black. The whole insect very finely and very densely punctured and pubescent throughout, the pubescence short and silky. Antennæ and legs yellow. Length 2.5 mm.

Much smaller than the European *erosa* Steph., differently coloured and with comparatively longer and narrower thorax. Head much narrower than the thorax, transverse, the eyes large, not prominent. Antennæ slender, all the joints much longer than broad, the 4th to 10th subequal, the 11th longer

than the 10th. Thorax nearly twice as broad as long, the sides rounded, more retracted in front, the posterior angles rectangular, prominent, the base bisinuate, embracing the elytra. Elytra as long and as broad as the thorax, transverse, less finely and more roughly punctured than the rest of the insect.

Ceylon : Colombo. Andaman Islands : Port Blair (*Cameron*). Also in Penang.

Tribe 3. DIMONOMERINI.

Dimonomerini Cam., E. M. M. lxix, 1933, p. 103.

Represented by a single genus, *Dimonomera*.

Genus **DIMONOMERA** Cam.

Dimonomera Cam., E. M. M. lxix, 1933, p. 103.

In facies and pubescence somewhat resembling *Myllæna* but at once distinguished from all the Aleocharinæ by the rod-like anterior and middle tarsi, which consist of a single elongate joint only. Temples finely margined below, neck stout. Labrum and mouth-parts produced, the maxillary palpi and apparently the rest of the mouth-parts as in *Myllæna*. Pronotal epipleura strongly reflexed, not visible from the side. Mesosternum finely carinate, its process acute and extending the whole length of the coxæ, these narrowly separated. Tibiæ pubescent, the middle and posterior with a long seta about the middle externally. Tarsi 1, 1, 5; the anterior and middle with the joint slender, rod-like, as long as the tibia, the posterior with the joints closely articulated, the 1st a little longer than the 2nd, 2nd to 4th equal, 5th about as long as the 2nd, 3rd and 4th together longer than the 1st. All the claws slender, nearly straight, at the base with a slender appendage as long as the claw. Winged. Abdomen without transverse impressions at the bases of the tergites.

1454. *Dimonomera indica*.

Dimonomera indica Cam., E. M. M. lxix, 1933, p. 103.

Pitchy-black, closely and finely pubescent, scarcely shining. Antennæ with the first and last joints brownish-yellow, the rest black. Legs yellowish-red, the tibiæ blackish. Length 4 mm.

Larger and more robust than *Myllæna dubia* Gr., with much longer antennæ and much shorter thorax, but the colour, lustre, and pubescence very similar. Head round, much narrower than the thorax, very finely and very closely

punctured, eyes rather large, not prominent, about as long as the post-ocular region. Antennæ very long and slender, all the joints much longer than broad, the 11th as long as the 10th. Thorax fully half as broad again as long, widest behind the middle, the sides rounded, more retracted in front than behind, the posterior angles briefly rounded, the base sinuate on each side, very finely and very closely punctured, more finely than the head. Elytra a little broader and a fifth longer than the thorax, emarginate postero-externally, very closely and finely punctured. Abdomen narrowed from base to apex, extremely finely and closely punctured. The whole insect very finely and closely grey-pubescent.

Assam: Shugnu, alt. 3000 feet (*type*). Kumaun: Sarju Valley, alt. 5000 feet.

Tribe 4. MYLLÆNINI.

Myllænini Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 317; Reitt., Faun. German. ii, 1909, p. 88; Fenyès, Gen. Ins. 173 B, 1920, p. 135.

Head somewhat produced and narrowed in front, inserted in the thorax. Maxillary palpi and lobes very long. Labial palpi styliform. Tarsi 4, 4, 5.

Key to the Genera.

First four visible segments of abdomen not transversely impressed at their bases; elytra distinctly emarginate postero-externally

MYLLÆNA Er., p. 15.

First four visible segments of abdomen strongly transversely impressed at their bases, the impressions carinate; elytra not emarginate postero-externally

[p. 22
MNIOPHILA, gen. n.,

Genus MYLLÆNA Er.

Myllæna Er., Käf. Mark Brand. i, 1837-39 (1837), p. 382; id., Gen. Spec. Staph. 1839-40, p. 209; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 367; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 20; Thomson, Skand. Col. iii, 1861, p. 15; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 34; Fauv., Faun. Gallo-rhén. iii, 1872, p. 624; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 317; Reitt., Faun. Germ. ii, 1909, p. 88; Blatchley, Col. Indiana, i, 1910, p. 338; Fenyès, Gen. Ins. 173 B, 1920, p. 136; Notman, Bull. Amer. Mus. xlii, 1920, p. 707.
Centroglossa Matth., Ent. Mag. v, 1838, p. 194.

Very finely and very densely punctured and pubescent species, the head produced and narrowed in front, the abdomen pointed. Head rather small, round or oval, somewhat produced in front, its base concealed in the thorax, gular sutures widely separated, parallel, the eyes rather large, the temples bordered.

Antennæ 11-jointed. Labrum only slightly broader than long, a little narrowed towards the anterior border, which is broadly rounded. Mandibles rather long, the apex pointed and incurved, edentate. Maxillary palpi long, the 1st joint very small, the 2nd and 3rd elongate, of equal length, the latter fusiform, the 4th minute, subulate. Outer and inner lobes of the maxilla very slender, elongate, corneous, the apex of the outer ciliate, the inner with small hook at apex, its inner margin serrate. Mentum transverse, trapezoidal, the anterior angles much produced, spiniform. Labial palpi very long and slender, somewhat indistinctly 3-jointed, styliiform, the 1st joint long, twice as long as the 2nd, 3rd membranous, about a fourth as long as the preceding. Tongue very small, pointed. Paraglossæ apparently wanting. Pronotum somewhat convex, the pronotal epipleura strongly reflexed, not visible from the side. Prosternum with the deflexed part rounded behind. Mesosternum with very narrow acute process which is keeled and extends about half the length of the coxæ, these very narrowly separated. Scutellum concealed. Elytra strongly emarginate internal to the postero-external angles. Abdomen strongly bordered, the tergites without transverse basal impressions. Legs moderate, the middle and posterior tibiæ usually with a strong seta externally about the middle. Tarsi 4, 4, 5; the anterior and middle with the first three joints rather short, subequal, the 4th shorter than the 2nd and 3rd together; posterior with the 1st joint almost as long as the 2nd and 3rd together, 2nd to 4th subequal, 5th almost as long as the 3rd and 4th together. Claws slender, feebly curved. The genus is cosmopolitan and is found in the damp places.

Key to the Species.

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|-------------------------------------------------------------------------------------------|----|----------------------------------|
| 1. Species at least in part red, reddish, or yellowish-red | 2. | |
| Species black or pitchy | 9. | |
| 2. Elytra shorter than the thorax | 3. | |
| Elytra as long or longer than the thorax .. | 4. | |
| 3. Elytra much shorter than the thorax ; antennæ entirely reddish-yellow | | [p. 22. |
| Elytra a little shorter than the thorax ; antennæ with the 2nd to 4th joints pitchy | | <i>brevipennis</i> , sp. n.. |
| 4. More or less shining species | 5. | <i>picticornis</i> Fauv., p. 17. |
| Dull species | 7. | |
| 5. Antennæ with all the joints much longer than broad | | <i>bicolor</i> , sp. n., p. 21. |
| Antennæ with the penultimate joints only slightly longer than broad | 6. | |
| 6. More brightly coloured ; abdomen not sericeous ; antennæ shorter | | <i>nitidula</i> Kr., p. 21. |
| Less brightly coloured ; abdomen sericeous ; antennæ longer | | <i>affinis</i> , sp. n., p. 22. |

7. Larger, 3-4 mm.
Smaller, 1.5 mm.
8. Antennæ very long, the 1st, 10th, and 11th joints yellow.
Antennæ shorter, entirely reddish-yellow
9. Elytra a little shorter than the thorax ; antennæ entirely dark. Small species, 2 mm.
Elytra as long or a little longer than the thorax. Larger
10. Antennæ yellow, at most with the intermediate joints slightly infuscate
Antennæ dark, the base and sometimes the apex yellow
11. More robust, more pitchy, more densely and finely punctured ; antennæ longer
Narrower, blacker, less densely and less finely punctured ; antennæ shorter
12. 11th joint of the antenna clear yellow
11th joint of the antennæ at most with the apex obscurely lighter
13. Antennæ longer and stouter
Antennæ shorter and more slender
8. *apicalis* Kr., p. 20.
regina Fauv., p. 17.
lateritia Kr., p. 19.
infuscata Kr., p. 20.
10.
11.
12.
indica, sp. n., p. 19
[p. 19.
himalayica, sp. n.,
terminalis, sp. n., p. 18.
13.
longicornis, sp. n., p. 18.
monticola, sp. n., p. 18.

1455. *Myllæna regina*.

Myllæna regina Fauv., Rev. d'Ent. xiv, 1895, p. 286.

Size of *Dinopsis fuscata* Matth., but much narrower : build rather like *dubia* Gr., but nearly twice as large, ferruginous-red and more densely and finely sericeous, the mouth, 1st, 10th, and 11th joints of the antennæ and the tarsi testaceous, the sides of the thorax obscurely red, the margins of the segments, legs, and coxæ red, the elytra about the shoulders and the apical margin reddish ; head pitchy red, the elytra and 5th and 6th segments except at the apex blackish ; antennæ slender, very long, the joints a third longer than in *dubia*, thorax a little longer, the base near the nearly rectangular posterior angles less sinuate ; elytra scarcely longer, abdomen much less narrowed. Length 4 mm.

Burma ; Carin Asciiui Ghécu, 1400-1500 m., iii., iv. (*L. Fea*) (ex Fauvel).

1456. *Myllæna picticornis*.

Myllæna picticornis Fauv., Rev. d'Ent. xiv, 1895, p. 286.

Of the size of *intermedia* Er., but broader, densely yellow pubescent, sericeous, with more numerous black setæ, ferruginous, mouth and legs reddish-yellow. Antennæ with the 2nd to 4th joints somewhat pitchy, the 1st, 5th to 11th orange-red, sides of thorax, shoulders, suture, and apical margin of the elytra and margins of the abdominal segments obscurely reddish, the 6th segment except the base and the whole of the 7th obscure yellow ; antennæ slender, short, the 5th to 7th

and 8th to 10th joints equal amongst themselves, a little longer than broad; thorax a little longer than in *intermedia*, evenly arcuately narrowed from the base to apex, the posterior angles more rounded; elytra transverse, rather shorter than the thorax. Length 2-2½ mm.

Burma: Carin Asciiu Ghécu, alt. 1400-1500 m., iii, iv. (*L. Fea*) (ex *Fauvel*).

1457. *Myllæna monticola*, sp. n.

Pitchy, sericeous, head black. First four or five joints of the antennæ and apex of the last testaceous; mouth-parts and legs testaceous. Length 3.5 mm. (in extended examples).

Colour and lustre of *M. intermedia* Er., but with stouter antennæ, broader and more robust build. Antennæ a little thinner and shorter than in *M. dubia* Gr., but similarly constructed, all the joints cylindrical and decreasing in length, the 10th joint distinctly longer than broad, the 11th a little longer than the 10th. Thorax about half as broad again as long. Elytra transverse, a little longer and broader than the thorax; abdomen pointed. The whole insect densely and finely punctured and pubescent, sericeous.

Widely distributed along the mountain streams.

Punjab: Kulu, Naggur. United Provinces: Mussooree, Chakrata, and Simla Hills. W. Almora, Upper Gumti Valley (*Champion*). Ghum district, Mangpu. Assam: Shugnu, alt. 3000-8000 feet.

1458. *Myllæna terminalis*, sp. n.

Size, build, colour, and lustre of *monticola*, and only differs from it in the colour and structure of the antennæ; these are blackish, with the first two joints and the whole of the last clear yellow, the last joint also is slightly longer than the two preceding together, and the penultimate joints are a little longer and more slender than in *monticola*. From *longicornis* it is distinguished by the smaller size and thinner antennæ, with the last joint clear yellow and longer.

Ghum district: Rongdong Valley (*Cameron*).

1459. *Myllæna longicornis*, sp. n.

Colour and lustre of *monticola*, but larger (4 mm.) and more robust, the antennæ distinctly longer and thicker, all the joints much longer than broad, the 11th a little longer than the 10th, only the first two and the apex of the last joints yellow; elytra as long as the thorax, the puncturation throughout a little less fine.

Ghum district: Mangpu; Rongdong Valley (*Cameron*).

1460. *Myllæna himalayica*, sp. n.

Black or brownish-black, sericeous. The antennæ and legs yellow. Length 2.75 mm. (abdomen extended).

Colour and lustre of *intermedia* Er., but a little narrower, the antennæ shorter and differently coloured, all the joints however distinctly longer than broad, the 11th scarcely longer than the 10th. From *indica* it differs in the narrower build, darker colour, less finely and less densely punctured fore parts, shorter and more brightly coloured antennæ. The elytra are as long as the thorax.

Mussooree district; Kaligad. Chakrata, alt. 7000–8000 feet (*Cameron*). Kumaun, Haldwani district (*H. G. Champion*).

1461. *Myllæna indica*, sp. n.

Sericeous, very finely and very densely punctured and pubescent, dusky brown, the posterior margins of the abdominal segments narrowly rufescent. Antennæ yellow, the intermediate joints sometimes slightly infusate. Legs yellow. Length 2.75 mm. (abdomen extended).

Very similar in size and build to *intermedia* Er., but the thorax a little shorter, the colour lighter. The antennæ are similar in construction, the puncturation and pubescence of the abdomen are a little less fine and a little less dense. Antennæ long and slender, all the joints much longer than broad, the 11th a little longer than the 10th. Thorax almost half as broad again as long, the posterior angles briefly rounded, not prominent. Elytra as broad as but slightly longer than the thorax.

Dehra Dun. Mussooree. Ghum district; Rongdong Valley. Assam: Naga Hills.

1462. *Myllæna lateritia*.

Myllæna lateritia Kr.*, Arch. Naturg. xxv, 1859, i, p. 50.

Myllæna faberensis Cam., Trans. Ent. Soc. Lond. 1919, p. 244.

Narrow, elongate, acuminate posteriorly, very finely and very densely punctured and pubescent, scarcely shining, sericeous, ochraceous, the head and abdomen more or less infusate, with the posterior margins of the segments reddish-yellow. Antennæ yellow, the 3rd to 8th joints somewhat infusate. Legs yellow. Length 3–3.4 mm. (abdomen extended).

In build and antennal structure much resembling *græca* Kr., but differently coloured and the thorax longer and so proportionately less transverse, the antennæ stouter. Antennæ slender, with all the joints elongate, the 2nd longer than the 1st and

3rd, the 3rd to the 6th of equal length and breadth, the 7th to the 9th a little shorter, equal to each other, the 10th a little shorter than the 9th, the 11th elongate, pointed, a little longer than the 10th. Thorax nearly one-half broader than long, broadest about the middle, from thence the sides gently rounded and narrowed to the anterior angles, very slightly narrowed and scarcely at all rounded to the briefly rounded posterior angles, the bases slightly bisinuate. Elytra as long and as broad as the thorax.

Ceylon: Kandy. India: Dehra Dun: Siwaliks; Lachiwala. Lower Burma: Kyauktan. Also in the Malay Peninsula and Sumatra.

1463. *Myllæna infuscata*.

Myllæna infuscata Kr., Stett. Ent. Zeit. xiv, 1853, p. 373; id., Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 371; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 66; Fauv., Faun. Gallo-rhén. iii, 1872, p. 628; Matth., Cist. Ent. iii, 1883, p. 42; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 321; Reitt., Faun. Germ. ii, 1909, p. 89.

Myllæna brevivestis Cas., Mem. Col. ii, 1911, p. 240.

Myllæna immunda Cas., l. c. p. 240.

Myllæna minima Kr., Stett. Ent. Zeit. xiv, 1853, p. 374; id., Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 371; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 69.

Moderately shining, scarcely sericeous, finely grey pubescent, black, the apex of the abdomen reddish-yellow. Antennæ black. Legs reddish-yellow, the femora and tibiæ more or less infuscate. Length 2 mm. (abdomen extended).

Antennæ with all the joints a little longer than broad, the 11th a little longer than the 10th. Thorax fully a third broader than long, the posterior angles rounded, not prominent, the puncturation very fine, rather close. Elytra a little widened behind, a little shorter and a little broader behind than the thorax, very finely and very closely punctured. Abdomen narrowed from base to apex, extremely finely and closely punctured.

Kashmir: Gulmarg, alt. 8000 feet. Also in Europe and North America.

1464. *Myllæna apicalis*.

Myllæna apicalis Kr., Arch. Naturg. xxv, 1859, i, p. 51.

Subopaque, sericeous, the fore parts brownish-ochraceous or ferruginous-red, abdomen pitchy, the posterior margins of the anterior and the whole of the last two segments testaceous. Antennæ and legs testaceous. Length 1.75 mm.

Of the size and build of *minuta* Gr. Head extremely finely and very closely punctured. Antennæ with the 3rd joint

shorter than the 2nd, 4th to 10th slightly longer than broad, the 4th to 8th scarcely differing amongst themselves, 9th and 10th scarcely longer than broad, 11th conical, pointed, as long as the two preceding together. Thorax transverse, nearly twice as broad as long, the sides gently rounded, the posterior angles obtusely rounded, the puncturation as on the head. Elytra as long and as broad as the thorax, rather less finely punctured. Abdomen narrowed from base to apex, the puncturation rather less fine and closer than on the elytra, the apex with a few black setæ. The whole insect closely covered with a fine yellow pubescence, sericeous.

Ceylon (*Nietner*).

1465. *Myllæna nitidula*.

Myllæna nitidula Kr.*. Arch. Naturg. xxv, 1859, i, p. 50.

Rather shining; head and thorax brownish-yellow, elytra and abdomen infusate, the posterior margin of the former narrowly lighter. Antennæ and legs testaceous, the 3rd to 5th joints of the former sometimes infusate. Length 2 mm.

About the size, build, and moderately shining appearance of *brevicornis* Matth., but yellower in colour, the antennæ longer and more slender, the elytra longer. Head very finely, moderately closely punctured, finely, moderately closely yellow pubescent. Antennæ with the 3rd joint shorter than 2nd, 4th to 10th slightly longer than broad, gradually increasing in width, the 11th as long as the two preceding together. Thorax transverse, the sides more strongly rounded and retracted in front than in *brevicornis*, the posterior angles obtusely rounded, extremely finely, closely punctured and with yellow pubescence. Elytra as long as but scarcely as broad as the thorax, less finely punctured. Abdomen narrowed from base to apex, finely and much less closely punctured than the fore parts, with much coarser and less close yellow pubescence.

Ceylon (*Nietner*).

1466. *Myllæna bicolor*, sp. n.

Moderately shining; head and thorax red; elytra blackish, the posterior margin very narrowly and obscurely lighter; abdomen black, the posterior margins of the first three visible segments very narrowly, the posterior half of the 5th and whole of the 6th reddish. Antennæ and legs reddish-yellow. Length 2 mm.

Distinct by the colour and the puncturation and pubescence being less dense than in most of the genus. Antennæ elongate, all the joints much longer than broad, the 11th a little longer

than the 10th. Thorax fully a third broader than long, the posterior angles rounded, not prominent, the puncturation and pubescence fine and close as on the head. Elytra as long as and slightly broader than the thorax, as finely but more closely punctured. Abdomen very finely and very closely punctured and pubescent, sericeous.

Ghum district : Rongdong Valley (*Cameron*).

1467. *Myllæna affinis*, sp. n.

Moderately shining ; head pitchy-red, thorax red, elytra and abdomen blackish, the posterior margins of the segments narrowly, the last segment entirely reddish-yellow. Antennæ and legs reddish-yellow. Length 2 mm. (abdomen extended).

In colour and lustre very similar to *bicolor*, but the antennæ are shorter, the individual joints longer than broad but shorter than in *bicolor*, the thorax also is shorter and so more transverse, the posterior angles rounded, the puncturation a little closer. Elytra as long and as broad as the thorax, very finely and very closely punctured. Abdomen narrowed from base to apex, very finely and very closely punctured. The whole insect very finely and closely pubescent.

Ghum district : Rongdong Valley (*Cameron*).

1468. *Myllæna brevipennis*, sp. n.

Moderately shining ; red, the elytra and abdomen before the apex blackish. Antennæ and legs reddish-yellow. Length 1.75 mm.

At once distinguished from all the Indian species by the very short elytra. Antennæ with all the joints longer than broad, the penultimate only slightly so, 11th a little longer than the 10th. Thorax large, about a third broader than long, the posterior angles obtuse, not prominent, very finely, rather closely punctured. Elytra narrower and only about half as long as the thorax, more densely punctured. Abdomen narrowed from base to apex, very finely and very closely punctured and pubescent.

Ghum district (*Cameron*).

MNIOPHILA, gen. n.

Facies very similar to *Myllæna*, but at once distinguished by the strongly transversely impressed first four dorsal segments of the abdomen, the elytra not sinuate internal to the postero-external angles, the less dense pubescence especially of the abdomen, etc. Head round, the neck stout and concealed by the thorax, the temples strongly bordered below.

Labrum transverse, the anterior border and angles rounded. Mandibles stout, edentate. Maxillary palpi with the 1st joint small, 2nd slightly thickened towards apex, 3rd as long as 2nd but much stouter, oviform, narrowed at the base, 4th very small, subulate. Outer lobe of maxilla very narrow, pointed, its apex with a few cilia; inner lobe a little broader, corneous, incurved and sharply pointed at apex, the inner border with several short teeth, nearer the base with two or three longer setæ. Mentum transverse, trapezoidal, the anterior angles produced and prominent. Tongue short, teat-shaped. Labial palpi elongate, distinctly 3-jointed, styliform, the 1st joint long, 2nd about half as long as the 1st, 3rd very short. Paraglossæ feeble. Thorax transverse, convex, the posterior angles obtuse and prominent, the pronotal epipleura broad, strongly reflexed, not visible from the side. Prosternum with very short anterior and longer carinate posterior part. Mesosternum simple, its process narrow, keeled, rounded at apex and extending the whole length of the coxæ, these moderately separated. Metasternal process short, rounded at apex and meeting the mesosternum. Abdomen gradually narrowed from base to apex, the first four visible segments strongly transversely impressed at their bases, the impressions with numerous little keels. Legs rather slender, the tibiæ finely ciliate. Tarsi 4, 4, 5; the anterior with the first three joints short, the 4th as long as the 2nd and 3rd together; middle with the first three joints short, but longer than those of the anterior pair, the 4th as long as the three preceding together; posterior with the 1st joint elongate, as long as the 2nd and 3rd together, 4th a little shorter than the 3rd; claws slender, slightly curved. The species are found in stream moss attached to boulders.

Key to the Species.

Base of antennæ reddish-yellow, the penultimate joints not or scarcely transverse ..	<i>fluvialis</i> , sp. n., p. 23.
Antennæ entirely black, the penultimate joints distinctly transverse	<i>torrentum</i> , sp. n., p. 24.

1469. *Mniophila fluvialis*, sp. n.

Rather shining; head and abdomen black, thorax and elytra blackish-brown. Antennæ dark, the first two joints reddish-yellow. Legs reddish, the tibiæ slightly infuscate. Length 3.75 mm.

Head narrower than the thorax, extremely finely, moderately closely punctured, the eyes large, not prominent. Antennæ with the 2nd and 3rd joints of equal length, a little longer

than the 1st, 4th to 8th a little longer than broad, gradually decreasing in length, 9th as long as broad, 10th slightly transverse, 11th as long as the two preceding together. Thorax rather more than a third broader than long, the sides slightly rounded and slightly widened in front, straight behind, the posterior angles very slightly obtuse, the base feebly bisinuate, extremely finely and rather closely punctured. Scutellum closely punctured. Elytra broader than and about twice as long as the thorax, very finely and very closely punctured. Abdomen narrowed from base to apex, more shining than the fore parts, the first four visible segments with numerous close longitudinal keels in the impressions, the rest of the surface extremely finely moderately closely punctured. The fore parts rather closely covered with short fine depressed pubescence, the abdomen much less pubescent and so more shining.

Simla Hills : Kotgarh, alt. 7000 feet. In stream moss.

1470. *Mniophila torrentum*, sp. n.

Entirely black, moderately shining. Antennæ black. Legs brownish-yellow. Length 3-3.5 mm.

Facies recalling *Oxypoda*. Head narrower than the thorax, extremely finely, rather closely punctured, the eyes rather large but not prominent. Antennæ with the 3rd joint a little shorter than the 2nd, 4th and 5th slightly longer than broad, 6th about as long as broad, 7th to 10th distinctly transverse. Thorax a third broader than long, the sides gently rounded, more retracted behind, the posterior angles obtuse, the base feebly bisinuate, in the posterior half sometimes with a rather broad longitudinal median impression, extremely finely, closely punctured. Elytra scarcely broader but a third longer than the thorax, not sinuate postero-externally, very finely, very closely roughly punctured. Abdomen narrowed from base to apex, extremely finely, closely punctured, in the impressions with several little keels. The whole insect covered with a fine, close, greyish pubescence, not sericeous.

Ghum district : Rongdong Valley ; Setikhola, v., vi. 31 (*Cameron*).

Tribe 5. MASURIINI.

Head not produced in front, the labrum transverse. Neck stout. Labial palpi 3-jointed, inner lobe of maxilla very narrow, entirely corneous. Tarsi 4, 5, 5. Facies rather like *Pronomæa*. Only one genus is at present referable to this tribe.

Genus **MASURIA** Cam.*Masuria* Cam., E. M. M. lxiv, 1928, p. 51.*Almora* Bernh., in litt.

Very similar in facies to *Pronomæa* Er., but with the head scarcely produced in front, the mandibles less elongate, the labial palpi distinctly 3-jointed, and the thorax rather strongly sinuate before the posterior angles. Head narrower than the thorax, transverse, the temples strongly margined below, not constricted behind, the neck thick. Labrum rounded in front, forming about three-quarters of a circle. Mandibles rather short, pointed, slightly curved, the right with a small tooth about the middle. Maxillary palpi elongate, the 1st joint very small, the 2nd rather long, slightly thickened

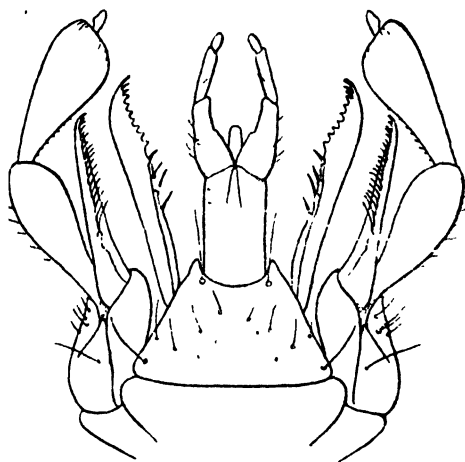


Fig. 4.—*Masuria plumbea*, maxillæ and labium.

towards the apex, 3rd a little shorter than the preceding and a little thicker apically, 4th very small, subulate. Inner lobe of the maxilla narrow, elongate, hooked at the apex, and with 8 or 9 short, stout teeth, posteriorly with 4 or 5 setæ. Outer lobe shorter than the inner, narrowed towards the apex, which is ciliate. Mentum broadly, rather deeply, arcuately emarginate in front, the anterior angles prominent. Tongue small, narrow, oblong, about half as long as the 1st joint of the labial palpi, these elongate, distinctly 3-jointed, the 1st joint rather long and partially divided into two equal parts by a suture from the inner border, the basal part stouter than the apical; 2nd narrower and a little shorter than the 1st, 3rd narrower and much shorter than the preceding;

paraglossæ distinct. Prothoracic epipleura visible when viewed from the side. Mesosternum and its process carinate, pointed, extending fully two-thirds of the length of the coxæ, these moderately separated; metasternal process pointed, meeting the mesosternal process. Tibiæ ciliate. Tarsi 4, 5, 5; the anterior pair with the first three joints short and subequal, the 4th longer than the three preceding together; middle pair with the first four joints short and subequal, the 5th about as long as the 2nd to 4th together; posterior pair with the 1st joint rather long, as long as the 2nd and 3rd together; 2nd to 4th subequal, the 5th about as long as the first. Claws very slightly curved. Elytra sinuate within the postero-external angles. Abdomen with the first three tergites transversely impressed at their bases. The insects are found in stream moss and débris. Genotype, *M. plumbea*.

Key to the Species.

- | | |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| 1. Black or blackish species | 2. |
| Species in part reddish or ferruginous | 4. |
| 2. Legs pitchy; more shining species | <i>picipes</i> Cam., p. 27. |
| Legs reddish-yellow; less shining, rougher species | 3. |
| 3. Larger, 4 mm. First three joints of antennæ reddish-yellow; thorax with the sides behind strongly sinuate | <i>plumbea</i> Cam., p. 26. |
| Smaller, 2.5 mm. First two joints of antennæ reddish-yellow; thorax with the sides behind less sinuate | <i>parva</i> , sp. n., p. 27. |
| 4. Elytra as long and as broad as the thorax .. | <i>ferruginea</i> Cam., p. 28. |
| Elytra broader than the thorax | 5. |
| 5. Thorax strongly transverse; antennæ shorter. 8th to 10th joints strongly transverse | <i>rubida</i> , sp. n., p. 28. |
| Thorax less transverse; antennæ longer, the 8th and 9th joints not transverse ... | <i>rufescens</i> , sp. n., p. 28. |

1471. **Masuria plumbea.** (Plate I, fig. 1.)

Masuria plumbea Cam., E. M. M. lxiv, 1928, p. 51.

Almora championi Bernh., *in litt.*

Elongate, convex, subparallel, leaden-black, scarcely shining, the thorax, especially the margins, pitchy. The first three and the last joints of the antennæ reddish-testaceous. Legs brownish-red. Length 4 mm.

Head distinctly narrower than the thorax, closely, rather finely punctured, finely grey-pubescent. Antennæ gradually thickened towards the apex, the 2nd and 3rd joints of equal length, 4th to 6th longer than broad, gradually decreasing in length, 7th and 8th about as long as broad, 9th and 10th slightly transverse, 11th oval, about as long as the two pre-

ceding together. Thorax about a fourth broader than long, widest a little before the middle, from thence rounded and narrowed in front, strongly narrowed and sinuate behind to the obtuse but prominent posterior angles, slightly obliquely impressed internal to the sinuation; puncturation rather close, distinctly coarser and rougher than that of the head, between the punctures with a fine ground-sculpture, pubescence distinct. Elytra a little longer and broader than the thorax, transverse, convex, with sculpture and pubescence very similar to that of the thorax. Abdomen at the base of the first three segments with some moderately coarse punctures, the rest of the surface finely and closely punctured and pubescent throughout.

N. India: Mussooree, Chakrata and Almora districts; Kumaun, Gori River. Punjab: Triun, alt. 9300 feet.

1472. *Masuria picipes*.

Masuria picipes Cam., E. M. M. lxiv, 1928, p. 52.

Leaden-black, slightly shining. Antennæ black, the first two joints obscurely testaceous. Legs pitchy, tarsi ferruginous. Length 2-3.5 mm.

Differs from the preceding in the smaller, narrower build, more shining appearance, differently coloured antennæ and legs, the former rather shorter but similarly constructed, less strongly sinuate thorax with less prominent posterior angles, sculpture of the fore parts less rough; the abdominal sculpture and pubescence scarcely differing from the preceding.

N. India: Chakrata district, Sainj Khud, alt. 6500 ft. (*Cameron*). Punjab: Parbatti Valley, alt. 6000-8000 feet. Bhabbu Pass: Naggar: Jibhi, Seraj, alt. 5000-9000 feet (*Champion*).

1473. *Masuria parva*, sp. n.

Very similar to *plumbea* in build, colour, and lustre, but much smaller (2.5 mm.), the antennæ shorter, with the penultimate joints more transverse, the thorax with the sides less emarginate behind. The antennæ have the 4th and 5th joints only slightly longer than broad, the 6th to 10th transverse, the penultimate strongly. Puncturation of thorax and elytra coarse and close, that of the head close but less coarse; Abdomen finely and rather closely punctured, in the impressions less finely. The whole insect covered with a long, rather coarse, greyish pubescence, giving it a rough appearance.

Ghum district, v., vi. 31 (*Cameron*). In stream moss.

1474. *Masuria ferruginea*.

Masuria ferruginea Cam., E. M. M. lxiv, 1928, p. 52.

Scarcely shining : head black, thorax and abdomen ferruginous, the latter more or less infusate before the apex ; elytra yellowish-red, slightly infusate postero-externally. Antennæ black, the first four and the last joints testaceous. Legs reddish-testaceous. Length 3·5–4 mm.

Differs from *picipes* in the colour, longer antennæ, and broader head and thorax, the latter being as broad and as long as the elytra. The antennæ have the 4th to 6th joints distinctly longer than broad, the 7th and 8th about as long as broad, the 9th and 10th a little transverse ; the sculpture of the head and thorax is rather rougher than in *picipes*, that of the elytra scarcely differing. The abdomen is distinctly less thickly punctured and pubescent than in either of the preceding species.

N. India : Mussooree, Mossy Falls ; Chakrata, Khedar Khud ; Simla Hills, Gahan : alt. 7000–8000 feet. Punjab : Parbatti Valley, alt. 6000–8000 feet (*Champion*).

1475. *Masuria rufescens*, sp. n.

Moderately shining, reddish-brown, the 4th (visible) abdominal segment darker. Antennæ and legs reddish. Length 3·5 mm.

Size and build of *picipes* but differently coloured, the antennæ longer, the intermediate joints longer than broad, the 9th about as long as broad, 10th slightly transverse, 11th as long as the two preceeding together, puncturation of the fore parts a little stronger. From *ferruginea* it is distinguished by the longer antennæ, smaller head, and longer thorax, which is narrower than the elytra, these longer and more ample ; puncturation of the fore parts rather less close, that of the abdomen closer.

Ghum district : Mangpu, v., vi. 31. In stream moss (*Cameron*).

1476. *Masuria rubida*, sp. n.

Moderately shining, ferruginous-red, the abdomen pitchy, the apex lighter. Antennæ with the first three joints yellow, the following reddish. Legs yellowish-red. Length 3·5 mm.

Distinguished from all the other species by the more strongly transverse thorax, its posterior angles obtuse and not prominent. Head rather finely and rather closely punctured. Antennæ with the 3rd joint longer than the 2nd, 4th to 6th a little longer than broad, gradually decreasing in length, 7th about as long as broad, 8th to 10th transverse, 11th as

long as the two preceding together. Thorax about a third broader than long, the sides rounded and widened in front, retracted but only slightly sinuate behind, the posterior angles obtuse and not prominent; before the scutellum with a small impression, obliquely impressed towards the posterior angles, the puncturation close, coarser at the sides, where it is coarser than that of the head. Elytra as long as but broader than the thorax, convex, less closely but about as strongly punctured as the sides of the thorax. Abdomen rather closely, moderately finely punctured. The whole insect covered with a rather long, moderately coarse yellowish pubescence.

Ghum district, v., vi. 31 (*Cameron*).

Tribe 6. PRONOMÆINI.

Pronomæini Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 315; Reitt., Faun. Germ. ii, 1909, p. 87; Fenyès, Gen. Ins. 173 B, 1920, p. 140.
Pronoméates Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 342.

Head distinctly produced in front. Mandibles and maxillæ elongate, prominent. Labial palpi styliform, 1- or 2-jointed. Tarsi 4, 5, 5. Represented in our Fauna only by the genus *Pronomæa*.

Genus PRONOMÆA Er.

Pronomæa Er., Käf. Mark Brand. i, 1837-39, p. 378; id., Gen. Spec. Staph. 1839-40, p. 207; Lacord., Gen. Col. ii, 1855, p. 46; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 364; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 20; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 343; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 315; Reitt., Faun. Germ. ii, 1909, p. 88; Fenyès, Gen. Ins. 173 B, 1920, p. 140.

Head distinctly produced and narrowed in front, temples bordered below. Labrum semi-elliptical, rounded in front. Mandibles long and slender, the right with a small tooth. Maxillary palpi elongate, the 3rd joint a little longer but only slightly thicker than the 2nd, the 4th subulate, only about a fifth as long as the preceding. Maxillæ long and slender, the outer lobe a little shorter than the inner, its apex hairy, the inner hooked at apex, the apical half of the inner margin very finely toothed, the basal half with long hairs. Mentum transverse, trapezoidal, the anterior angles strongly produced. Labial palpi elongate, styliform, gradually narrowed from base to apex, and without distinct joints. Tongue small, divided nearly to the base into two narrow diverging lobes. Paraglossæ small. Pronotum convex, its epipleura broad, more or less horizontal, and visible from the side. Mesosternal process narrow, pointed, extending nearly the

whole length of the coxæ, these moderately separated. Elytra sinuate at the postero-external angles. Abdomen with the first three visible tergites transversely impressed at their bases, the first three sternites constricted at their bases. Legs rather long and slender. Tibiæ ciliate. Tarsi 4, 5, 5; the anterior with the first three joints short, subequal, the 4th longer than the preceding together; middle with the first four joints short and subequal, the 5th about as long as the 2nd, 3rd, and 4th together; posterior with the 1st joint about as long as the 2nd and 3rd together, 2nd, 3rd, and 4th moderate, subequal, the 5th almost as long as the 2nd, 3rd, and 4th together. Claws lightly curved.

The genus is probably of world-wide distribution, although it is not recorded from Australia. The species frequent damp places.

Key to the Species.

Black species, the posterior part of the elytra and margins of the abdominal segments, brown	<i>bramina</i> Motsch., p. 30.
Reddish-brown species	<i>thaxteri</i> Bernh., p. 31.

1477. *Pronomæa bramina*.

Pronomæa bramina Motsch.*, Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 224.

Moderately shining, black, the posterior margins of the elytra and of the abdominal segments narrowly brown. Antennæ black, the 1st joint dark brown. Legs dark reddish-brown, the tarsi yellow. Maxillary palpi brownish-yellow. Length 3.5 mm.

Head closely covered with moderately fine punctures. Antennæ stout, the 3rd joint longer than the 2nd, 4th a little longer than broad, the following about as long as broad, increasing a little in breadth. Thorax slightly transverse, the sides rounded in front, retracted and a little sinuate behind, the posterior angles obtuse, flattened along the middle of the posterior half, the base on each side with a small fovea, the puncturation a little less fine than on the head, equally close, and in certain aspects having a granular appearance. Elytra as long as but broader than the thorax, the sculpture asperate. Abdomen nearly parallel, the first three visible segments transversely impressed at the bases, each with three little basal keels, one median and one on each side near the margin, the puncturation in the impressions coarse and close, elsewhere much finer and less close. Pubescence throughout brownish, rather long and moderately close.

"Ind. or."

1478. *Pronomæa thaxteri*.

Pronomæa thaxteri Bernh., W. Z. B. lxxv, 1915, p. 148.

Rather shining, dark reddish-brown, the posterior margins of the abdominal segments rather broadly reddish-yellow. Antennæ blackish, the first two joints and apex of the last reddish-yellow. Legs reddish-yellow. Length 2.5–2.75 mm.

More robust and convex than the European *rostrata* Er., with much more closely punctured fore parts. Head narrower than the thorax, closely, moderately finely punctured, the eyes large, not prominent. Antennæ stout, the 3rd joint a little longer than the 2nd, 4th and 5th a little longer than broad, 6th as long as broad, 7th to 10th transverse, 11th as long as the two preceding together. Thorax a fourth broader than long, the sides rounded and dilated in front, retracted and scarcely sinuate behind, the posterior angles obtuse, before the base with three foveæ of which the median is the largest, the puncturation very similar to that of the head. Elytra slightly broader and as long as the thorax (measured from the base), closely, moderately finely, but roughly punctured. Abdomen parallel, the bases of the first three visible segments coarsely and closely punctured, elsewhere much more finely and sparingly. The fore parts covered with a moderately long, rather close, partly erect and partly depressed pubescence, the abdomen much less pubescent.

Tenasserim: Tavoy. Also in Borneo, the Philippines, Sumatra, and Malay Peninsula.

Tribe 7. OLIGOTINI.

Oligotini Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 306; Reitter, Faun.

Germ. ii, 1909, p. 86; id., Gen. Spec. Staph. 1839–40, p. 179; Heer,

Oligotides Thoms., Skand. Col. ii, 1860, p. 262.

Oligotaires Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 97.

Oligotina Shp., B. C.-A. i, 2, 1882–87 (1883), p. 287 (excl. *Bamona*, *Barychara*, and *Saphoglossa*).

Antennæ 10-jointed. All the tarsi 4-jointed.

Genus **OLIGOTA** Mannerh.

Oligota Mannerh., Mém. Ac. Sci. St. Petersb. i, 1830, p. 72; Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 431; Er., Käf. Mark Brand. i, 1837–39, p. 362; id., Gen. Spec. Staph. 1839–40, p. 179; Heer, Faun. Helv. i, 1838–42, p. 312; Fairm. et Laboulb., Faun. Ent. Fr. Col. i, 1854, p. 453; Lacord., Gen. Col. ii, 1855, pp. 37, 39; Jacq. du Val, Gen. Col. d'Eur. ii, 1857–59, p. 17; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856–58, p. 346; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 654; Olliff, Proc. Linn. Soc. N. S. Wales (2) i, 1886, p. 466; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 306;

- Sharp, Faun. Haw. iii, 1908, p. 554; Reitt., Faun. Germ. ii, 1909, p. 86; Blatchley, Col. Indiana, i, 1910, p. 339; Fenyès, Gen. Ins. 173 A, 1918, p. 54.
- Oligota* + *Microcera* Thoms., Skand. Col. ii, 1860, pp. 262, 263.
- Microcera* + *Oligota* Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. 1873, pp. 98, 108.
- Subgen. *Holobus* Sol., in Gay, Hist. Chile, Zool. iv, 1849, p. 335.
- Somatium* Woll., Ins. Mad. 1854, p. 563.
- Microcera* Thoms., Skand. Col. ii, 1860, p. 263; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. 1873, p. 101.
- Subgen. *Oligota*, s. str., Thoms., Skand. Col. ii, 1860, p. 262; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 657; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 309.
- Microcera* + *Oligota* Mannerh., Brach. 1830, p. 72.
- Goliota* + *Logiota* + *Oligota*, s. str., Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. 1873, pp. 101, 111.
- BIOLOGY.—Heeger, Sitzber. Ak. Wiss. x, 1853, p. 460, tab. 1; Muls. et Rey, Ann. Soc. Linn. Lyon, xxxiii, 1886, p. 165; id., Sep. Ess. d'étud. cert. Larv. Col. 1887, p. 35; Ruportsb., Biol. Lit. Käf. Eur. 1894, p. 118; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 307.

Minute species with 10-jointed clavate antennæ. Head rounded behind, the neck broad, inserted in the thorax; gular sutures widely separated, subparallel; temples bordered below. Labrum very short, strongly transverse, truncate in front. Maxillary palpi with 1st joint very small, 2nd elongate, thickened at apex, 3rd a little longer and a little stouter than the 2nd, gradually thickened from base to apex, 4th subulate, about half as long as the 3rd. Mandibles stout at the base, the right deeply notched at the middle of the external margin, internally with an obtuse tooth, the apical part acute, much more slender than the basal, the left only feebly notched externally, internally with an obtuse tooth, the apex bifid. Outer lobe of the maxilla very slender, its apex furnished with fine hairs; inner lobe broader, acutely pointed and incurved at the apex, its inner border on the apical half furnished with long slender spines. Mentum transverse, trapezoidal. Labial palpi small, the first two joints very short, stout, equal, broader than long, the 3rd about as long as the 1st and 2nd joints together but much narrower, in some species the separation between the 1st and 2nd joints scarcely visible. Tongue very short, broad, divided into two pointed lobes. Paraglossæ feeble, not extending beyond the base of the tongue. Pronotum short and broad, the sides rounded and retracted in front, the epipleura strongly reflexed, not visible from the side. Mesosternum sometimes with trace of median keel, its process short and broad, extending nearly the whole length of the coxæ, slightly emarginate at apex and meeting the metasternum, coxæ widely separated. Elytra not sinuate postero-externally. Abdomen strongly bordered, the first three visible segments more or less distinctly transversely impressed

at their bases. Legs moderate, slender, tibiæ without setæ. Tarsi 4, 4, 4; the anterior with the 1st joint a little longer than the 2nd, 4th almost as long as the preceding together; middle and posterior with the 1st joint fully as long as the 2nd and 3rd together, the 4th longer than the two preceding together. Claws slightly curved. A cosmopolitan genus. The species are found in various situations and prey on Acarids and Physopodids.

Two divisions may be recognised, but are scarcely clearly defined.

Form convex, strongly narrowed behind,

facies somewhat similar to *Hypocyptus*. . . . HOLOBUS Sol., p. 33.

Narrow, subparallel, abdomen only narrowed

at the apex OLIGOTA, s. str., p. 34.

Subgenus *HOLOBUS* Sol.

Holobus Sol., in Gay, Hist. Chile, Zool. iv, 1849, p. 335; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 309; Reitt., Faun. Germ. ii, 1909, p. 86; Shp., Faun. Haw. iii, 1908, p. 554; Fenyès, Gen. Ins 173 A, 1918, p. 55.

Characters as above.

1479. *Oligota* (*Holobus*) *chrysopyga*.

Oligota chrysopyga Kr., Arch. Naturg. xxv, 1859, i, p. 45.

Oligota ventralis Fauv., Rev. d'Ent. viii, 1889, p. 271; id., xxii, 1903, p. 275.

Minute, ovate, shining, reddish-brown to pitchy-black, with the last two abdominal segments bright yellow. Antennæ with the first six or seven joints reddish-yellow, the rest blackish. Legs reddish-yellow. Length 1 mm.

Very similar in build, sculpture, and colour to *apicata* Er., but with the club of the antennæ much thicker. Head and thorax extremely finely, moderately closely punctured. Antennæ with the 2nd joint narrower and shorter than the 1st, 3rd a little shorter than the 2nd, 4th to 6th about as long as broad, 7th strongly, 8th and 9th very strongly transverse, almost twice as broad as the 7th, 10th large, as long as the two preceding together. Thorax about twice as broad as long, the sides rounded, strongly retracted and deflexed in front. Elytra a little longer and a good deal broader than the thorax, finely, moderately closely, rather roughly punctured. Abdomen strongly narrowed from base to apex, finely, moderately closely punctured, the pubescence stiff, moderately close, the posterior margin of the last segment fringed with long yellow hairs.

Ceylon. Also in New Caledonia, E. Africa, Seychelles, and the West Indies.

Key to the Species of Oligota, s. str.

- | | |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1. Reddish-yellow species | <i>testacea</i> Kr., p. 34. |
| Otherwise coloured | 2. |
| 2. Club of antennæ 3-jointed | 3. |
| Club of antennæ 4- or 5-jointed | 4. |
| 3. Narrow and more parallel; colour darker.
Broader, less parallel; colour brighter .. | <i>pusillima</i> Gr., p. 34.
<i>semibrunnea</i> Kr., p. 35. |
| 4. Club of antennæ 4-jointed | <i>monticola</i> , sp. n., p. 35. |
| Club of antennæ 5-jointed | <i>gardneri</i> , sp. n., p. 35. |

1480. *Oligota* (s. str.) *pusillima*.

Aleochara pusillima Gr., Mon. Col. Micr. 1806, p. 175; Er., Käf. Mark Brand. i, 1837-39, p. 363 (*Oligota*); id., Gen. Spec. Staph. 1839-40, p. 179; Kraatz, Naturg. Ins. Deutschl. ii, 1856-59, p. 347; Thoms., Skand. Col. ii, 1860, p. 262; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 150; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 662; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 311; Reitt., Faun. Germ. ii, 1909, p. 87; Fenyès, Gen. Ins. 173 A, 1918, p. 57, pl. i, fig. 2.

Oligota apiciventræ Fairm. et Germ., Ann. Soc. Ent. Fr. (4) i, 1861, p. 423.

Oligota indica Motsch., Bull. Mosc. xxxi, 1858, iii, p. 236; Kraatz, Arch. Naturg. xxv, 1859, i, p. 44.

Oligota linearis Casey, Mem. Col. ii, 1911, p. 232.

Oligota minutissima Heer, Faun. Holv. i, 1838-42 (1841), p. 334.

Oligota parallela Casey, Mem. Col. ii, 1911, p. 232.

Oligota picta Motsch., Bull. Mosc. xxxi, 1858, iii, p. 236.

Moderately shining, narrow, parallel, black, with reddish-brown elytra or entirely dark reddish-brown, the last two abdominal segments reddish-yellow. Antennæ reddish-yellow, the club infusate. Legs reddish-yellow. Length 0.8 mm.

Head and thorax very finely, moderately closely punctured, and with a very fine coriaceous ground-sculpture. Antennæ with the 6th and 7th joints transverse, the 8th and 9th much more strongly, 10th stout, about as long as the two preceding together. Thorax fully a third broader than long, the sides rounded and retracted in front. Elytra as broad as and a little longer than the thorax, less finely and more closely punctured. Abdomen parallel, as broad as the elytra, with close, fine squamous sculpture, less marked on the 7th segment. The whole insect with a very fine, greyish pubescence.

Simla and Chakrata districts. Also in Europe, Egypt, N. America, and Chile.

1481. *Oligota* (s. str.) *testacea*.

Oligota testacea Kr., Arch. Naturg. xxv, 1859, i, p. 44.

Reddish-testaceous, the apex of the antennæ and 5th abdominal segment infusate, the last four joints of the antennæ obviously thicker than the preceding. Length 0.7 mm.

Build of *pusillima* Gr., but a little smaller, less convex, differently coloured, more closely pubescent, extremely finely and closely punctured.

Ceylon. Three examples under decaying fruit collected by Nietner (ex *Kraatz*).

1482. *Oligota* (s. str.) *semibrunnea*.

Oligota semibrunnea Kr., Arch. Naturg. xxv, 1859, i, p. 45.

Linear, brown, the abdomen pitchy, with the base pitchy-red and apex reddish-yellow. Antennæ and legs reddish-yellow. Length .8 mm.

Near *atomaria* Er., but a little broader. Antennæ reddish-yellow, thickened towards the apex. Head, thorax, and elytra formed as in *atomaria*, but distinctly shorter. Abdomen somewhat narrowed towards the apex, extremely finely punctured, pitchy, the 2nd and 3rd segments brown or pitchy-red, the 6th and 7th reddish-yellow. Legs reddish-yellow.

Ceylon (ex *Kraatz*).

1483. *Oligota* (s. str.) *monticola*, sp. n.

Moderately shining; head and abdomen black, the last two segments yellowish, thorax and elytra dark reddish-brown. Antennæ reddish-yellow, the club infusate. Legs yellow. Length 1 mm.

In build resembling *atomaria* Er., but with 4-jointed antennal club, the squamous sculpture of the abdomen not so coarse, the puncturation of the head and thorax not quite so fine, although very finely and moderately closely punctured, distinctly coriaceous. Antennæ with the 3rd joint much shorter and more slender than the 2nd, 4th and 5th moniliform, 6th transverse, 7th to 9th much more strongly so. Elytra a little longer and broader than the thorax, less finely and more roughly punctured.

Simla Hills : Kotgarh, alt. 7000 feet. In fungus (*Cameron*).

1484. *Oligota* (s. str.) *gardneri*, sp. n.

Moderately shining, black, the thorax blackish-brown, the posterior margin of the 7th and whole of the 8th segment yellowish. Antennæ reddish-yellow. Legs yellowish, the tibiæ infusate. Length 1.3 mm.

Somewhat resembling *granaria* Er. in build, but distinguished at once by the 5-jointed club of the antennæ; the head and thorax is much less closely punctured than in *granaria* and have no ground-sculpture, the latter also is less transverse.

The 3rd joint of the antennæ is narrower but not much shorter than the 2nd, 4th and 5th small, about as long as broad, the 6th to 9th much broader, but not so strongly transverse as in most of the genus, 10th as long as the two preceding together. Elytra a little broader and longer than the thorax, more closely and roughly, less finely punctured. Abdomen finely and moderately closely punctured, the sculpture having a less strongly squamose appearance than in *pusillima*.

Mussooree. In fungus (*Gardner*).

Tribe 8. EUSTENIAMORPHINI.

Comprises only a single genus, somewhat resembling *Falagria* in appearance.

Genus **EUSTENIAMORPHA** Cam.

Eusteniamorpha Cam., Trans. Ent. Soc. Lond. 1920, p. 253 ; Bernh., W. Z. B. lxxviii, 1928, p. 42 ; Cam., Zool. Anzeiger (Wasmann Festband), 1929, p. 114.

? *Eustenia* Fauv., Rev. d'Ent. xxiv, 1905, p. 145.

Labrum transverse, corneous, truncate, the sides and anterior angles rounded. Mandibles short, stout, pointed, the right with a small tooth at the middle of the inner border. Maxillary palpi 4-jointed, the 1st joint small, the 2nd narrow at the base, dilated gradually towards the apex, the 3rd as long as the 2nd but a little thicker towards the extremity, the 4th subulate, about one-third as long as the preceding. Inner lobe of the maxilla narrow, pointed and incurved at the apex, pectinate internally, the teeth increasing in length from before backwards ; outer lobe narrow, the apex shortly ciliate. Tongue broad, membranous, as long as the 1st joint of the labial palpi, the sides and apex rounded. Paraglossæ distinct, shortly ciliate, not extending beyond the apex of the tongue. Labial palpi 3-jointed, the 1st joint short (but longer than broad), the 2nd shorter and narrower than the 1st, the 3rd a little longer but narrower than the 2nd, dilated at apex. Gular sutures distant, slightly divergent behind. Temples strongly bordered below. Neck broad, the temples constricted behind. Prosternum long, carinate ; mesosternal process extending for half the length of the intermediate coxæ, truncate, the coxæ moderately separated ; metasternal process truncate, meeting the mesosternum. Elytra not sinuate. Tarsal formula 3, 4, 4 ; the anterior pair with the first two joints short and subequal, the 3rd longer than the two preceding together ; middle pair with the 1st joint

moderately long, the 2nd and 3rd short and subequal, the 4th nearly as long as the three preceding together; posterior pair with the 1st joint moderately long, the 2nd and 3rd subequal, shorter than the 1st, the 4th nearly as long as the three preceding together. Abdomen strongly constricted at the base and dilated posteriorly. The third to the fifth dorsal segments lightly impressed transversely at the bases. Thorax strongly contracted before the base, the sides dilated and rounded anteriorly, the posterior angles rectangular, prominent.

This genus has a facies very similar to *Falagria*. It is perhaps identical with *Eustenia* Fauv., but according to this author the tarsal formula is 4, 4, 5; the structure of the tarsi

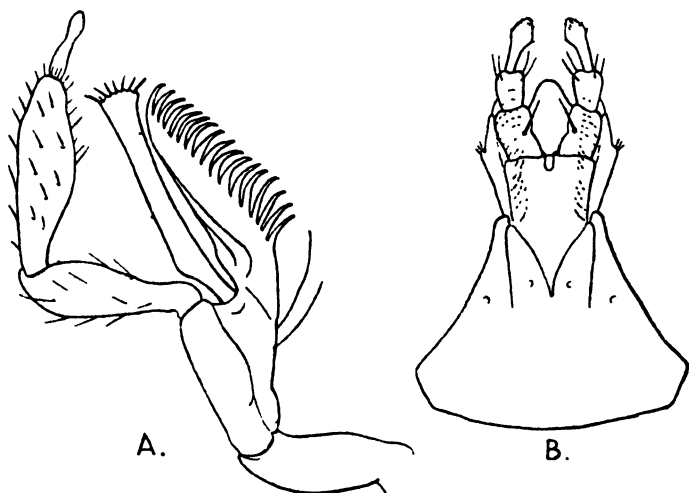


Fig. 5.—*Eusteniamorpha fortepunctata*. A. maxilla; B. labium.

however can only be ascertained by microscopical examination, and it is possible that an error was made by him.

A number of species are described from the Oriental region and I have seen one from the Belgian Congo. The genus, at all events in the East, is associated with ants of the genus *Pheidole*. Only one species is recorded in our Fauna.

1485. *Eusteniamorpha indica*. (Pl. I, fig. 2.)

Eusteniamorpha indica Cam., Zool. Anzeiger (Wasmann Fest band), 1929, p. 119.

Reddish; head and thorax scarcely shining, the elytra reddish-testaceous, these and the abdomen more shining. Antennæ and legs reddish-testaceous. Length 1.5–1.75 mm.

Near *E. rufa* Cam., but a little narrower, the antennæ shorter and thicker, the thorax with closer and more rugose sculpture, less shining, shorter and more abruptly stragulate before the base; abdomen narrower, much less dilated towards the apex. Head pentagonal, rather closely, moderately coarsely and roughly punctured; eyes rather prominent. Antennæ with the 3rd joint a little shorter than 2nd, 4th about as long as broad, 5th to 10th transverse, gradually increasing in width, 11th conical, as long as the two preceding together. Thorax wider than the head, slightly transverse, strongly contracted behind the middle, the sides in front strongly rounded; middle of the disc sulcate throughout, before the scutellum with a fovea, closely and roughly punctured, the dilated part of the sides less punctured. Elytra slightly broader and as long as the thorax, convex, more shining, very finely and moderately closely punctured, and with a few larger scattered punctures. Abdomen contracted at base, gradually and slightly enlarged to the 6th segment, then gradually narrowed to apex, finely and not very closely punctured, the first three segments with median basal keel.

N. India; Dehra Dun; Kaligad (*Cameron*).

Tribe 9. HYGRONOMINI.

Hygronomini Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 311; Reitt., Faun. Germ. ii, 1909, p. 87; Blatchley, Col. Indiana, i, 1910, p. 338; Fenyès, Gen. Ins. 173 A, 1918, p. 67; Portevin, Encycl. Ent. A, xii, 1929, i, pp. 227, 311; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 69.

Hygronomides Thoms., Skand. Col. ii, 1860, p. 270.

Hygronomaires Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. i, 1873, p. 91.

Hygronomina Johansen, Danmarks Rovbiller, 1914, p. 277.

This tribe is characterized by the 4-jointed tarsi. Of the four genera occurring in our Fauna three are termitophilous.

Key to the Genera.

- | | |
|------------------------------------------------------------------------------------|-----------------------|
| 1. Abdomen inflated | 2. |
| Abdomen normal, acuminate or more or less parallel | |
| 2. Antennæ geniculate | 3. [p 40. |
| Antennæ not geniculate | TERMITOTIMA Wasm., |
| 3. Parallel, subdepressed species, the claws strongly angulate at their base | TERMITOPTOCHUS Silv., |
| Fusiform convex species, the claws normally curved | [p. 39. |
| | HYGROCHARA, gen. n., |
| | [p. 43. |
| | EUTERMITOPHILA, |
| | gen. n., [p. 41. |

Genus **TERMITOPTOCHUS** Silvestri.

Termitoptochus Silv., Boll. Labor. Zool. Portici, v. 1910, p. 37 (figs.), and v. 1911, p. 373; Fenyès, Gen. Ins. 173 A, 1918, p. 59; Cam., Trans. Ent. Soc. Lond. 1920, pp. 361, 396; Kemner, Ark. Zool. xviii, 1925 A, no. 10, pp. 1-25; id., Ent. Tidskr. xlii, 1925, p. 108.

♀. Elongate, the abdomen obtriangular, inflated, turned upwards and forwards so that the sternites 2-6 face upwards and backwards. Head depressed, suboval, the greatest breadth behind the eyes, its length and breadth, excluding the labrum, subequal. Eyes lateral, prominent. Antennæ inserted on the upper surface, 11-jointed, a little thickened towards the apex, the 3rd to 10th joints broader at the apex than at the base, the last joint oval. Labrum transverse, about two-thirds broader than long, a little sinuate in the middle, with two rather long and stout setæ a little before the middle and some shorter ones along the anterior border. Mandibles very small, subtriangular, the inner apical margin scarcely dentate. Maxilla with the cardo small, the stipes rather longer than broad, scarcely extending beyond the inner lobe; inner lobe narrowed to an acute, inwardly directed tooth at the apex and with about twelve rather long setæ along the inner margin; outer lobe somewhat curved, broad at apex, with a series of fine closely placed setæ forming a pencil. Maxillary palpus articulated almost at the apex of the stipes, scarcely lateral, 2-jointed, the joints flattened and contiguous with the margins of the outer lobe of the maxilla and labium, the 2nd joint somewhat curved, bluntly pointed, with a long curved seta before the apex, two shorter ones at the apex, and a row of three or four short ones between the apex and the long curved one. Labium obtrapezoidal, the sides rounded, the anterior margin a little sinuate. Labial palpi very small, 2-jointed, the 1st joint a little produced internally, the 2nd as long as the produced part of the 1st. Mentum about two-ninths longer than broad, furnished with numerous long setæ. Thorax: pronotum somewhat broader than long, a little convex, the sides a little rounded, the anterior border produced on each side of the middle into a short broad process. Scutellum small, transverse, scarcely visible when the elytra are closed. Elytra moderately longer than the pronotum, together a little longer than broad, obliquely truncate behind. Wings obsolete. Prosternum small, transverse, subrectangular between the coxæ. Mesosternum transverse, sinuate in front, somewhat produced behind in the middle, arcuately emarginate on each side of the produced part, the coxa articulated at the posterior internal angle, the surface furnished with some very short setæ. Metasternum somewhat elevated in the middle,

behind broadly and triangularly produced; the episterna long, subrectangular, somewhat oblique; epimera rather small, extending somewhat beyond the posterior margin of the elytra. Coxæ of the 1st and 2nd pairs of legs elongate, those of the 3rd pair short, dilated at the base, the outer plate reaching the epimera; tibiæ subcylindrical, without spines, the first pair densely covered internally for nearly the whole length with short setæ. Tarsi all 4-jointed, the claws rather long and stout, lightly curved. Abdomen with the 1st sternite much larger than the rest, a little longer than broad, the rest normal; tergites 1 to 5 broader than long, the 8th about as long as the breadth at base, the sides gradually and slightly retracted behind, the posterior margin broadly rounded and extending a little beyond the 6th sternite. (After *Silvestri*.)

In *Silvestri*'s paper several figures are given.

The type of the genus (*indicus*) is found in Singapore.

Silvestri has further described two larvæ, *ceylonicus* (Boll. Lab. Zool. v, 1911, pp. 403-404, and xv, 1921, p. 14) and *peninsularis* (l. c. xv, 1921, pp. 8-10), with figures. No imago therefore from our Fauna is known.

Genus **TERMITOTIMA** Wasmann.

Termitotima Wasm., Zool. Jahrb. Syst. xxxix, 1916, p. 188 (note);
Kemner, Ark. Zool. xviii, 1925, A. no. 10, pp. 1-23; id., Ent.
Tidskr. xlv, 1925, p. 108.

Differs from *Termitoptochus* in the flagellate antennæ, the 1st joint forming a scape as in *Xenogaster* Wasm., and the structure of the abdomen, which is not fixed in a vertical position but is only bent vertically upwards, and the 5th free dorsal segment is widened, forming a horseshoe-shaped plate. Thus the genus is distinguished from *Xenogaster* and all others. All the tarsi 4-jointed, the 1st joint elongate (ex *Wasmann*).

1486. *Termitotima assmuthi*.

Termitotima assmuthi Wasm., Zool. Jahrb. Syst. xxxix, 1916, p. 188 (note).

Bright yellowish-brown, with white membranous bands between the segments of the strongly distended abdomen. Length 3 mm.; when extended, 4 mm.

Further description follows (ex *Wasmann*).

No further description of the genus or species has, however, been published.

EUTERMITOPHILA, gen. n

In facies much resembling the genus *Pygostenus*, and nearly related to *Perinthus* Cas. and *Lauella* Mann, but distinguished from both these genera by the 2-jointed labial palpi. Fusiform, narrowed in front and more strongly behind. Head much narrower than the thorax, its base inserted therein, the small eyes concealed from above. Antennæ 11-jointed, inserted near the inner border of the eye, free, the 8th to 11th joints slightly compressed laterally. Clypeal region declivous. Temples not bordered. Gular sutures widely separated behind, converging in front. Labrum transverse, feebly chitinous, in front with a small arcuate emargination. Mandibles rather prominent, acute, the left with a little tooth about the middle of the inner border. Maxillary palpi with small 1st joint, 2nd elongate, curved, a little thickened towards apex, 3rd as long as but narrower than the 2nd,

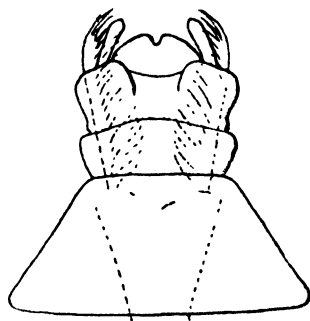


Fig. 6.—*Eutermatophila fletcheri*, labium.

oval, 4th slender, acuminate, half as long as the 3rd. Outer lobe of maxilla as long as the inner, pointed, and with a few cilia at apex; inner lobe narrower than the outer, partly corneous, curved at the apex and pointed, with a few fine spines internally. Mentum transverse, chitinous posteriorly, membranous in front, strongly narrowed from behind forwards, the apical margin truncate. Tongue short and broad, not extending beyond the apex of the 1st joint of the labial palpi, in the middle with a small triangular notch. Labial palpi 2-jointed, the 1st joint very short and stout, 2nd much narrower and a little longer, cylindrical, truncate at apex. Paraglossæ distinct, reaching the apex of the 1st joint of the labial palpi. Thorax strongly transverse, widest behind, the sides narrowed and retracted in front to the broadly rounded anterior angles, the posterior angles more briefly rounded, the anterior border broadly emarginate, the base bisinuate.

Pronotal epipleura absent. Prosternum short, without transverse ridge, articulated at some distance from the anterior pronotal angles. Mesosternal process very short, extending only slightly between the coxæ, these contiguous; metasternal process very short. Elytral epipleura pointed behind, separated by a distinct ridge from the dorsal surface, the elytra strongly emarginate. Abdomen strongly narrowed from base to apex, bordered, the tergites without transverse basal impressions; sternites convex, the first five subequal in length. Legs with the anterior coxæ almost as long as the femora. Femora sulcate internally towards apex for the reception of the tibiæ. Tibiæ about as long as the femora, the anterior very finely and rather closely ciliate internally, the middle less closely ciliate internally and with two fine setæ externally, the posterior with three fine setæ externally and sparingly ciliate internally. Tarsi 4, 4, 4; the anterior with the 1st joint slightly longer than the 2nd, 2nd and 3rd short, subequal, 4th about as long as the 2nd and 3rd together; middle with the 1st joint as long as the 2nd and 3rd together, these rather short, subequal; posterior with the 1st joint elongate, as long as the three following together, 3rd a little shorter than the 2nd, as long as the 4th. Claws lightly curved.

1487. *Eutermiphila fletcheri*, sp. n. (Pl. I, fig. 3.)

Ferruginous, moderately shining. Antennæ and legs yellow. Length 1.5–1.75 mm.

Broadest at the base of the thorax, narrowed in front, more strongly behind. Head much narrower than the thorax, its base concealed thereby, extremely finely, closely punctured, and with a very short yellow pubescence. Antennæ moderate, the 2nd joint a little shorter than the 1st, 3rd a little longer than the 2nd, 4th as long as the 3rd, 5th to 7th gradually decreasing in length, 8th to 10th about as long as broad and slightly compressed laterally, the 11th not much longer than the 10th. Thorax nearly twice as broad as long, convex, the sides gently rounded and retracted towards the front, the anterior border broadly emarginate, the base bisinuate, the angles rounded, the sculpture and pubescence as on the head. Elytra as long and as broad as the thorax, slightly narrowed backwards, strongly emarginate within the postero-external angles, the sculpture and pubescence very similar to that of the fore parts. Abdomen pointed, very finely and closely punctured and pubescent like the rest of the insect.

Coimbatore, 4. v. 12, with *Eutermes biformis* (T. B. Fletcher).

HYGROCHARA, gen. n.

Parallel, subdepressed species, in facies very similar to *Apimela* and *Meotica* Muls. & Rey. Head constricted behind, neck moderate, temples not bordered. Labrum transverse, the anterior angles rounded, feebly emarginate in the middle. Mandibles moderate, curved and pointed, the right with a small sharp tooth about the middle, at the base with a ciliated membrane. Maxillary palpi with the 3rd joint about as long but a good deal thicker at the apex than the 2nd, the 4th subulate, scarcely half as long as the 3rd. Outer lobe of maxilla narrow, a little longer than the inner, ciliate at apex; inner lobe narrow, pointed, the apical half closely set with moderately long slender spines, the basal part ciliate. Mentum short, transverse trapezoidal, the anterior margin almost

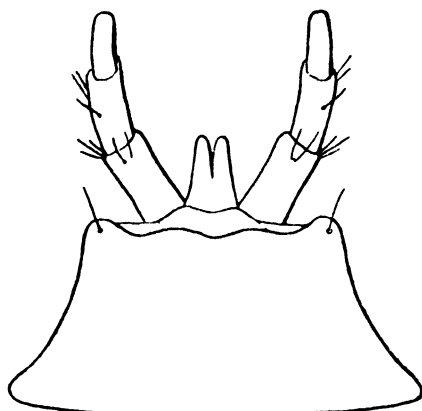


Fig. 7.—*Hygrochara indica*, labium.

truncate. Tongue short, oblong, about as long as the 1st joint of the labial palpi, narrowly incised at the apex. Paraglossæ feeble. Labial palpi 3-jointed, the 1st joint short, about twice as long as broad, the 2nd narrower and about as long, 3rd yet narrower and a little shorter than the 1st. Prosternum with very short anterior and longer deflexed posterior part, scarcely carinate. Pronotal epipleura narrow, visible from the side. Mesosternum with short acute process scarcely reaching the middle of the coxæ, these contiguous. Elytra not sinuate postero-externally. Tibiæ ciliate. Tarsi all 4-jointed; the anterior and middle with the first three joints short and subequal, the 4th about as long as the three preceding together; posterior with the 1st joint a little longer than the 2nd, 2nd and 3rd subequal, 4th a little longer than the 3rd; all the 4th joints tumid, the claws abruptly angulate

between the middle and the base. Abdomen parallel, the first three visible segments transversely impressed at base. The species are found near swiftly running water. The genus is probably allied to *Gyronycha* Casey, but is of different facies and with different maxillary palpi.

Genotype : *indica*.

Key to the Species.

1. Minute (1.3 mm.) brightly coloured species, the penultimate joints of antennæ strongly transverse *minuta*, sp. n., p. 46.
- Larger and more robust 2.
2. 5th joint of antennæ distinctly longer than broad 3.
- 5th joint of antennæ not or scarcely longer than broad 4.
3. Larger (3 mm.) and darker; head as broad as the thorax *magniceps*, sp. n., p. 45.
- Smaller (2-2.5 mm.), more brightly coloured; head almost as broad as the thorax *indica*, sp. n., p. 44.
4. Larger (3.3-3.5 mm.) and more robust *majuscula*, sp. n., p. 46.
- Smaller (2.3-2.75 mm.) 5.
5. Antennæ entirely reddish yellow *masuriensis*, sp. n., [p. 45.]
- Antennæ blackish or infusate, only the base reddish-yellow *secreta*, sp. n., p. 46.

1488. *Hygrochara indica*, sp. n.

Greasy lustrous, the head and abdomen black, the apex of the latter yellowish, thorax lighter or darker brownish-red; elytra brownish-yellow. Antennæ yellowish-red. Legs yellow. Length 2-2.5 mm.

Parallel, subdepressed. Head almost as wide as the thorax, the eyes small, the post-ocular region rounded, feebly dilated, twice as long as the eye, along the middle broadly or narrowly impressed, extremely finely, superficially, moderately closely punctured, the punctures confused with the ground-sculpture which is distinct and coriaceous. Antennæ long and slender, the 2nd and 3rd joints of equal length, 4th to 10th all longer than broad, gradually decreasing in length, the 10th only slightly longer than broad, the 11th about as long as the two preceding together. Thorax slightly transverse, the sides rounded in front, straighter and more retracted behind to the obtuse posterior angles, along the middle narrowly or broadly impressed, the ground-sculpture similar to that of the head, but the punctures yet finer and more indistinct. Elytra a little longer and broader than the thorax, extremely finely and very closely punctured. Abdomen parallel, narrowed at apex, very finely, moderately closely punctured on the first three segments, less closely behind. The whole insect closely and finely pubescent, the pubescence of the abdomen coarser

than that of the fore-parts. The specimens with broader impressions on the head and thorax are presumably males.

Simla Hills : Fagu. Chakrata district : Konain. Kashmir : Gulmarg.

1489. *Hygrochara magniceps*, sp. n.

Greasy lustrous, pitchy black, the elytra brownish-yellow. Antennæ yellowish-red. Legs yellow. Length 3 mm.

Differs from *indica* in the more robust build and larger head. The head is as broad as the thorax, the post-ocular region slightly dilated, the vertex impressed along the middle, the ground-sculpture coriaceous; the punctures are larger though superficial, and more evident than in *indica*; the antennæ are stouter than in that species but similarly constructed; the thorax is formed as in *indica*, its sculpture scarcely differing, the impression along the middle broad; the elytra and abdomen scarcely differ from *indica*.

♂: 7th dorsal segment with a large tubercle in the middle; 8th with two short, stout teeth in the middle of the posterior margin, separated by a shallow arcuate emargination, externally on each side with a short spine, between this and the inner tooth with a denticle.

Kashmir : Gulmarg. Unique.

1490. *Hygrochara masuriensis*, sp. n.

Near *indica*, but a little narrower and more shining, very similarly coloured but with the base and apex of the abdomen lighter; at once distinguished by the shorter and stouter antennæ. Head black, nearly as broad as the thorax, subquadrate, the post-ocular region a little dilated, the disc usually with a small fovea or short sulcus, extremely finely, obsoletely, moderately closely punctured, the punctures confused with the ground-sculpture as in *indica*. Antennæ reddish-yellow, with the 3rd joint shorter than the 2nd, 4th to 7th about as long as broad, 8th to 10th a little transverse, 11th only a little longer than the 10th. Thorax reddish-brown or yellowish-red, formed as in *indica*, along the middle often with a superficial sulcus, the puncturation not quite so close as in *indica*. Elytra brownish-yellow or yellow, a little longer and broader than the thorax, extremely finely and densely punctured. Abdomen a little narrowed before the apex, reddish-brown, the 4th visible segment, except behind, black, very finely, rather closely punctured on the anterior segments, more sparingly behind. The whole insect very finely and closely pubescent. Length 2·3 mm.

Mussooree : Mossy Falls. Simla Hills. Siwaliks.

1491. *Hygrochara secreta*, sp. n.

Parallel, moderately shining. Head black, thorax light chestnut-brown; the elytra smoky-brown with lighter shoulders or brownish-yellow; abdomen smoky-brown, the base sometimes obscurely reddish. Antennæ reddish-brown, the first three joints and legs reddish-yellow. Length 2.5–2.75 mm.

In colour and lustre somewhat resembling *masuriensis*, but larger and more robust, the antennæ longer, the 4th joint distinctly longer than broad, head more suborbicular, broader, the eyes larger, puncturation a little closer, thorax less narrowed behind, less finely punctured, elytra and abdomen more finely and more densely punctured. Head transverse, suborbicular, narrower than the thorax, the eyes moderate but distinctly shorter than the post-ocular region, the vertex sometimes with a small obsolete impression, closely and finely punctured. Antennæ with the 3rd joint as long as the 2nd, 4th to 7th slightly longer than broad, 8th to 10th about as long as broad, 11th as long as the 9th and 10th together. Thorax slightly transverse, the sides straight, only a little retracted behind, as closely but more finely punctured than the head and, like it, without ground-sculpture. Elytra slightly broader and scarcely a third longer than the thorax, extremely finely and densely punctured. Abdomen parallel, very finely and closely punctured, more sparingly on the last two segments. The whole insect covered with a fine, close, yellowish pubescence.

Tehri Garhwal: Aglar River. Siwaliks: Nakraunda, Lachiwala. Dehra Dun: Nim Nadi.

1492. *Hygrochara majuscula*, sp. n.

Colour and build of *secreta*, but larger (3.3–3.5 mm.) and more robust, the antennæ stouter, with the penultimate joints slightly transverse, the puncturation throughout distinctly less fine and on the abdomen much less close.

Mussooree district: Dhobi Ghat.

1493. *Hygrochara minuta*, sp. n.

Minute, parallel, depressed, moderately shining, yellowish-red, the head and 6th abdominal segment a little infuscate, the elytra yellow. Antennæ reddish, the first two joints and legs yellow. Length 1.5 mm.

Head quadrate, slightly broader than long, nearly as broad as the thorax, the eyes small, the temples very slightly widened behind and much longer than the eyes, the disc with a large superficial impression, very finely and closely punctured and without ground-sculpture. Antennæ with

the 3rd joint much shorter than the 2nd, 4th to 10th transverse, the penultimate twice as broad as long, the 11th as long as the two preceding together. Thorax subquadrate, very slightly broader than long, the sides straight, a little retracted behind, the posterior angles obtuse, as closely but more finely punctured than the head. Elytra slightly longer and slightly broader than the thorax, very finely, closely and obsoletely punctured. Abdomen parallel, extremely finely, rather closely punctured, more sparingly on the last two segments. The whole insect with a fine rather close yellow pubescence.

Siwaliks : Lachiwala.

Tribe 10. BOLITOCHARINI.

Bolitocharini Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 258; Casey.

Trans. Acad. Sc. St. Louis, xvi, 1906, p. 260; Reitt., Faun.

Gorm. ii, 1909, p. 75; Fenyès, Gen. Ins. 173 A, 1918, p. 76.

Bolitocharaires Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. v, 1871, p. 1.

Bolitocharina Shp., B. C.-A. i, 2, 1882-87 (1883), p. 240.

The tarsal formula in this tribe is 4, 4, 5. The head is not produced in front. The labial palpi are 2- or 3-jointed, sometimes styliform (*Silusa*, *Stenomastax*, etc.), the mentum truncate or very slightly and broadly emarginate in front, sometimes deeply arcuately emarginate as in *Diestota*, *Plagiusa Eccoptogenia*, *Neomalota*, and *Silusa*.

Key to the Genera.

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1. 1st joint of the posterior tarsi very long,
a little longer than the four following
together. Facies of <i>Tachysuda</i> | [p. 231.
TACHYCHARA Cam., |
| 1st joint of the posterior tarsi at most as
long as the three following together and
usually much shorter | 2. |
| 2. Labial palpi styliform. | 3. |
| Labial palpi not styliform, 2- or 3-jointed . | 8. |
| 3. Mesosternum keeled; mentum deeply
emarginate. | 4. |
| Mesosternum not keeled. | 5. |
| 4. Temples finely bordered below. Tongue
narrow and elongate, bifid | [Rey, p. 162.
DIESTOTA Muls. et. |
| Temples strongly bordered below. Tongue
narrow, elongate, not split at apex | [p. 166.
PLAGIUSA Bernh., |
| 5. First three ventral segments of abdomen
transversely constricted at their bases.. | [p. 185.
LINOGLOSSA Kr., |
| Ventral segments of abdomen not con-
stricted | 6. |
| 6. Tongue simple; right mandible with a
tooth. | SILUSA Er., p. 179. |
| Tongue bifid | 7. |
| 7. Tongue very long, extending to about the
middle of the 2nd joint of the labial
palpi; abdomen without lateral appen-
dages in ♂ | [p. 168.
STENOMASTAX Cam., |

- Tongue shorter, extending about half the length of the 1st joint of the labial palpi ; abdomen with lateral appendages in the ♂ [p. 184.]
8. Mesosternal process more or less broadly rounded or truncate behind or completely fused with the metasternum. Labial palpi 2-jointed 9.
- Mesosternal process more or less acute ... 14.
9. Mesosternum simple 10. [p. 142.]
- Mesosternum keeled STERNOTROPA Cam.,
10. Mandibles bifid at apex BRACHIDA Muls. et
- Mandibles not bifid 11. [Rey, p. 50.]
11. Mesosternal and metasternal processes distinctly separated 12.
- Mesosternal and metasternal processes completely fused, without trace of suture. [p. 145.]
12. Tongue broader, undivided PSEUDOLIGOTA Cam.,
- Tongue narrower, bifid GYROPHÆNA Mannerh.,
13. Pronotal epipleura visible from the side ; 1st joint of posterior tarsi short ; first three tergites strongly transversely impressed at base 13. [p. 56.]
- Pronotal epipleura not visible from the side ; 1st joint of posterior tarsi longer than the 2nd ; first three tergites feebly impressed CÆNONICA Kr., p. 148.
14. Mesosternum entirely or partly keeled ... [p. 55.]
- Mesosternum simple NEOBACHIDA Cam.,
15. Thorax strongly dilated and rounded in front, strongly constricted behind 15.
- Thorax normally formed. 18.
16. Labial palpi distinctly 3-jointed. Tongue narrow, bifid ; mesosternum entirely keeled [p. 228.]
- Labial palpi indistinctly 3-jointed. Tongue narrow, with two little appendages at apex ; mesosternum only keeled at the base EUSTENIA Fauv.,
17. Pronotal epipleura distinctly visible from the side ; 1st joint of posterior tarsi as long as the 2nd and 3rd together 16.
- Pronotal epipleura scarcely visible from the side ; 1st joint of posterior tarsi a little longer than the 2nd 17.
18. Mandibles bifid at apex ; 4th joint of maxillary palpi with an accessory joint ; labial palpi 3-jointed [p. 217.]
- Mandibles not bifid ; maxillary palpi without accessory joint PHYMATURA Sahlb.,
19. 1st joint of posterior tarsi as long as the 2nd and 3rd together [nerh., p. 222.]
- 1st joint of posterior tarsi short BOLITOCHARA Man-
20. Elytra strongly emarginate ; tongue longer than broad. [p. 215.]
- Elytra scarcely emarginate ; tongue broader than long NEOLEPTUSA, gen. n.,
21. Tongue simple ; labial palpi 2-jointed. [gen. n., p. 49.]
- Tongue bifid ; labial palpi 3-jointed PARABACHIDA,
- PLACUSA Er., p. 187.
- PSEUDOBACHIDA [Cam., p. 53.]
- CALODERINA Ganglb., [p. 229.]

22. Tongue narrow, linear 23.
 Tongue not linear 24.
 23. Tongue simple LEPTUSA Kr., p. 213
 Tongue split at apex SULEPTA, gen. n.,
 24. Temples at least bordered behind 25. [p. 216.
 Temples not bordered 29.
 25. Only the first two visible tergites trans- [p. 224.
 versely impressed PSEUDATHETA Cam.,
 The first three tergites impressed 26.
 26. Temples only bordered behind. Tongue [p. 198.
 broader than long. LAMPROMALOTA Cam.,
 Temples entirely bordered. Tongue longer [p. 27.
 than broad 27.
 27. Pronotal epipleura distinctly visible from [p. 28.
 the side 28.
 Pronotal epipleura not visible from the [p. 208.
 side CHLEDOPHILA Cam.,
 28. Tongue triangular, split to about the [p. 201.
 middle HOMALOTA Mannerh.,
 Tongue oblong, deeply arcuately emar- [p. 212.
 ginate MIMOMALOTA Cam.,
 29. First four abdominal tergites transversely [p. 227.
 impressed; first three sternites slightly [p. 227.
 transversely constricted at bases ECCOPTOGENIA Kr.,
 First three tergites impressed; sternites [p. 227.
 not constricted 30.
 30. Tongue triangular, split to about the [et Har., p. 203.
 middle; mentum feebly emarginate in [p. 210.
 front ANOMOGNATHUS Gemm.,
 Tongue narrow, parallel, bifid at apex; [p. 210.
 mentum deeply emarginate in front NEOMALOTA Cam.,

PARABRACHIDA, gen. n.

Of the broad, robust, and convex build of *Brachida*, but differs in the shorter, stouter legs, the femora thicker, the posterior tarsi with the first four joints short and subequal; all the claws are

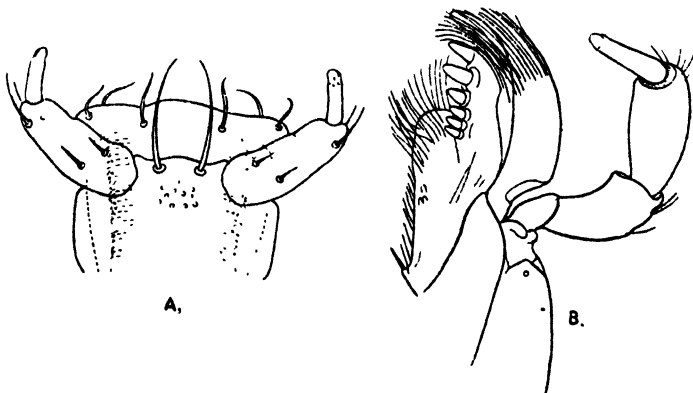


Fig. 8.—*Parabrachida decipiens*. A, labium; B, maxilla.

furnished at the base with a blunt tooth. The abdomen is without transverse basal impressions. Mesosternal process acute, extending the whole length of the coxæ and meeting the metasternum, the coxæ narrowly separated. The mandibles are bifid at the apex as in *Brachida*, but the 4th joint of the maxillary palpi is nearly half as long as the 3rd and furnished with a small accessory joint; the inner lobe of the maxilla is entirely corneous and furnished internally with six or seven strong teeth of varying length; the tongue is very short and broad, bisinuate in front, the labial palpi 3-jointed, the 1st joint stout and cylindrical, 2nd shorter and much narrower and furnished with a small accessory joint. In other respects similar to *Brachida*.

1494. *Parabrachida decipiens*, sp. n.

Entirely black, shining. Antennæ and legs black. Length 3 mm.

Head transverse, much narrower than the thorax, the eyes rather large, moderately closely and moderately finely punctured except in front, finely coriaceous. Antennæ short and stout, the 3rd joint as long as the 2nd, 4th small, transverse, 5th to 10th gradually more transverse, the penultimate joints twice as broad as long, the 11th stout, about as long as the two preceding together. Thorax strongly transverse (7 : 4·3), convex, the sides gently rounded, more retracted in front, the posterior angles obtuse and impressed, the sculpture very similar to that of the head. Elytra convex, a little broader and a little longer than the thorax, scarcely emarginate postero-externally, with a subsquamose sculpture and very feeble ground-sculpture. Abdomen narrowed from base to apex, with rather close reticulate sculpture on the first four visible segments, much more sparingly and simply punctured on the last two, the 5th near the base with two widely separated tubercles, the 6th much narrower, parallel-sided and truncate behind. Pubescence throughout very short and indistinct.

♂ (?) : 5th visible segment with an additional pair of tubercles near the posterior margin, so that four quadrately placed tubercles are present.

Bengal : Kalimpong, Samsingh, alt. 1800 feet (*Beeson*).
Burma : Ruby Mines (*Doherty*).

Genus **BRACHIDA** Muls. et Rey.

Brachida Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. v, 1871, p. 4; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 646; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 305; Casey, Trans. Acad. Sc. St. Louis, xvi, 1906, p. 279; Reitt., Faun. Germ. ii, 1909, p. 86; Fenyos, Gen. Ins. 173 A, 1918, p. 92.

Head deflexed, inserted in the thorax, the neck broad,

temples strongly bordered, gular sutures widely separated. Labrum transverse, the sides and anterior angles rounded, slightly emarginate in the middle. Mandibles short and stout, scarcely incurved at apex, in the middle with a small tooth or angulation, the apex of the left split. Maxillary palpi with very small 1st joint, 2nd slightly thickened towards apex, slightly curved, 3rd longer and stouter than the 2nd, 4th subulate, about half as long as the preceding. Outer lobe of the maxilla rather broad, truncate and ciliate at apex, extending slightly beyond the inner, which is widened towards the apex, rounded and covered with very fine short spines, its inner border finely ciliate. Mentum transverse, trapezoidal, feebly emarginate

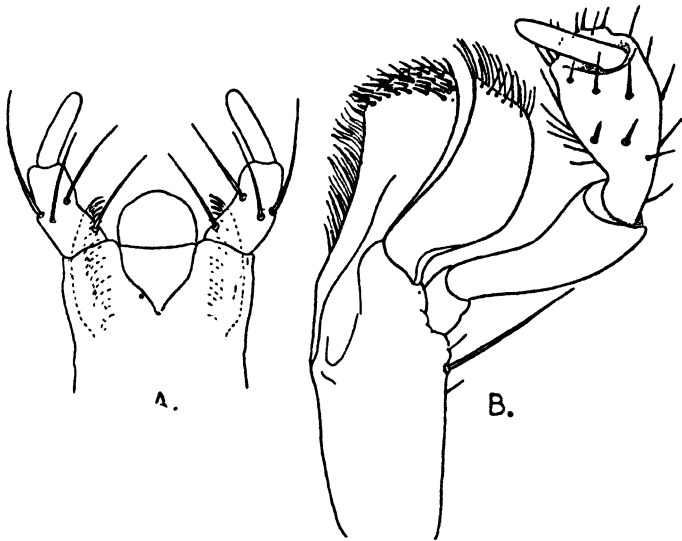


Fig. 9.—*Brachida densiventris*. A, labium; B, maxilla.

in front. Tongue membranous, very short and broad, rounded in front. Labial palpi 2-jointed, the 1st joint stout, the 2nd a little shorter and much more slender. Thorax short and broad, the sides rounded and retracted in front, the pronotal epipleura broad, strongly reflexed, not visible from the side. Prosternum short, its posterior deflexed part shorter than the anterior. Mesosternum simple, its process broad and extending the whole length of the coxæ, emarginate behind and meeting the metasternum; coxæ widely separated. Elytra scarcely sinuate behind. Abdomen with the first three visible segments transversely impressed at their bases. Anterior tarsi with the first three joints short and subequal, together about as

long as the 4th ; middle with the first three joints gradually decreasing in length, the 4th about as long as the 2nd and 3rd together ; posterior with the 1st joint rather long, 2nd to 4th shorter, gradually decreasing in length, 5th almost as long as the 2nd, 3rd, and 4th together. The genus is cosmopolitan, and is found in moss, dead leaves, fungus, etc.

Key to the Species.

- | | |
|-----------------------------------------------------------------------|-------------------------------------------|
| 1. Entirely reddish-yellow, the 6th abdominal segment infuscate | <i>flava</i> , sp. n., p. 53. |
| Otherwise coloured | 2. |
| 2. Head reddish, antennæ black, the base yellow | <i>crassiuscula</i> Kr., p. 52. |
| Head black, antennæ entirely reddish-yellow | [p. 52.
<i>sublævipennis</i> , sp. n., |

1495. *Brachida crassiuscula*.

Homalota crassiuscula Kr.*, Arch. Naturg. xxv, 1859, i, p. 41.

Shining, ferruginous or yellowish-red, the head more ferruginous, the elytra more yellow, the abdomen with the 4th (visible) segment blackish. Antennæ blackish, the first four joints yellow. Legs reddish-yellow. Length 2 mm.

Build of *notha* Er. Head narrower than the thorax, extremely finely, rather closely punctured. Antennæ slender, the 4th joint very small, 5th to 10th transverse. Thorax about twice as broad as long, convex, the sides rounded with the base, retracted in front, very finely, closely punctured. Elytra a little longer and broader than the thorax, very closely, finely but roughly punctured. Abdomen a little narrowed at the apex, very finely and closely punctured, and with erect black setæ. The whole insect covered with a rather long grey pubescence.

Ceylon.

1496. *Brachida sublævipennis*, sp. n.

Brachida sublævipennis Bornh., in litt.

Shining, rufo-ferruginous, the head and 4th visible abdominal segment black. Antennæ and legs reddish-yellow. Length 2.5 mm.

Larger than *crassiuscula*, the head black, the antennæ entirely reddish-yellow, the puncturation of the thorax not so close and a little finer, the elytra shorter, more transverse, only as long as the thorax, more finely, less closely punctured. Abdomen much more sparingly and more finely punctured, the raised lateral margins flattened.

♂: 8th dorsal segment furnished with two flat parallel

processes, their apices rounded and separated from each other by an arcuate excision.

Naini Tal, alt. 7000–8000 feet, vi. 1923. Kumaun (*H. G. Champion*).

1497. *Brachida flava*, sp. n.

Shining reddish-yellow, the 6th abdominal segment infusate. Antennæ and legs reddish-yellow, the 5th to 10th joints of the former slightly infusate. Length 2 mm.

Smaller than *crassiuscula*, the colour lighter, antennæ shorter, thorax shorter, more transverse, more closely punctured, elytra and abdomen much more finely and more closely punctured. Head transverse, a good deal narrower than the thorax, very obsoletely but rather closely punctured behind, impunctate in front. Antennæ with the 6th to 10th joints transverse, the penultimate about twice as broad as long, the 11th as long as the two preceding together. Thorax nearly twice as broad as long, very finely, obsoletely, rather closely punctured. Elytra a little longer and broader than the thorax, closely, finely, and asperately punctured. Abdomen very finely, rather closely, and asperately punctured. Pubescence fine, rather long, longer on the abdomen.

Bengal: Sarda (*F. W. Champion*). British Museum.

Genus **PSEUDOBACHIDA** Cam.

Pseudobachida Cam., E. M. M. Ivi, 1920, p. 51.

Maxillary palpi with the 3rd joint long, oval, the 4th subulate, about two-thirds as long as the preceding. Tongue short, scarcely longer than broad. Labial palpi 2-jointed, the 1st joint stout, the 2nd a little longer and considerably narrower. Temples strongly bordered below. Pronotal epipleura strongly reflexed, not visible laterally. Mesosternum gradually narrowed and bluntly pointed posteriorly, extending about two-thirds the length of the coxæ, which are moderately separated. Tarsal formula, 4, 4, 5; the anterior pair with the first three joints rather short and subequal, the 4th as long as the three preceding together; the middle pair with the 1st joint elongate, longer than the two following together, which are rather short and equal in length, the 4th joint about as long as the 1st; the posterior pair with the 1st joint elongate, as long as the 2nd and 3rd together, the 2nd to the 4th moderately long, equal, the 5th as long as the two preceding together. Elytra strongly sinuated postero-externally. Abdomen gradually pointed, the first two visible segments feebly transversely impressed at the bases, the impressions linear, the sculpture not reticulate.

Key to the Species.

- | | | |
|----------------------------------------------------------------------------------------|-------------------------------|---------|
| Penultimate joints of antennæ slightly transverse; abdomen black | <i>nigriventris</i> Cam., | [p. 54. |
| Penultimate joints of antennæ strongly transverse; abdomen reddish at base and apex .. | <i>siwalikensis</i> , sp. n., | [p. 54. |

1498. *Pseudobrachida nigriventris*.

Pseudobrachida nigriventris Cam., E. M. M. Ivi, 1920, p. 52.

Shining, moderately convex, acuminate posteriorly, the head, thorax, and elytra castaneous, the abdomen black; antennæ and legs testaceous. Length 2.3 mm.

Facies somewhat resembling *Brachida crassiuscula* Kr.

Head ensconced in the thorax to the eyes, which are large, finely and rather closely punctured, finely and sparingly pubescent. Antennæ moderately long, the 2nd and 3rd joints of equal length and scarcely differing in thickness, the 4th and 5th slightly longer than broad, the 6th to the 9th as long as broad, the 10th slightly transverse, the 11th as long as the two preceding together. Thorax short, more than twice as broad as long, rounded at the sides, a little narrower in front than at the posterior angles, which are obtuse but prominent, the base distinctly bisinuate and bordered; puncturation rather fine, moderately close and asperate, finely pubescent. Scutellum transverse, impunctate. Elytra about one-half as long again as, and broader than, the thorax, transverse, distinctly sinuate internal to the postero-external angles; puncturation very similar to that of the thorax, but rather coarser, finely pubescent. Abdomen gradually narrowed from base to apex, finely and not very closely punctured, and pubescent throughout.

♂: 8th dorsal segment with a rather deep, acutely pointed excision in the posterior margin in the middle line and two very small excisions on either side, thus forming six very narrow and pointed teeth of nearly equal length; 7th dorsal segment with two tubercles in the middle line, one at the base, the other just before the posterior border. Elytra along the suture with a row of 9 or 10 minute tubercles.

Ceylon.

1499. *Pseudobrachida siwalikensis*, sp. n.

In build similar to *nigriventris* but less robust, the antennæ shorter, the penultimate joints more transverse, thorax and elytra more finely punctured, the granules along the suture scarcely visible. The colour varies from a light castaneous to brownish-yellow, the abdomen reddish-brown, blackish before the apex. The 8th abdominal segment has the six

teeth on the posterior margin, but the 7th is without tubercles. Length 2.3 mm.

United Provinces : Dehra Dun. Siwaliks.

Genus **NEOBACHIDA** Cam.

Neobachida Cam., E. M. M. lvi, 1920, p. 51.

Maxillary palpi 4-jointed, the 3rd joint slightly thickened towards apex, the 4th subulate, more than half the length of the preceding. Tongue narrow and elongate, split nearly to the middle into two narrow pointed diverging lobes. Labial palpi 2-jointed, the 1st joint slightly curved, the 2nd a little shorter and considerably narrower. Temples bordered below. Pronotal epipleura strongly reflexed, not visible from the side. Mesosternum broad, truncate behind, and extending nearly the whole length of the coxæ, which are widely separated. Tarsal formula, 4, 4, 5; the anterior pair with the first three joints short and subequal; the middle pair similarly constructed, the 4th joint longer than the three preceding together; posterior pair with the 1st joint moderately long, the 2nd, 3rd, and 4th subequal and shorter than the 1st, the 5th elongate, about as long as the three preceding together. Elytra feebly sinuated postero-externally. Abdomen with the first three visible segments feebly transversely impressed at the bases, the impressions linear, the sculpture feebly reticulate.

This genus resembles *Agaricohara boleti* L. in build. The species on which the genus is founded is a narrower and less robust insect than *Brachida crassiuscula* Kr.

1500. **Neobachida castanea.**

Neobachida castanea Cam., E. M. M. lvi, 1920, p. 51.

Shining, light chestnut-brown, the 6th and 7th abdominal segments obscurely darker; antennæ and legs testaceous. Length 2.3 mm.

Head formed as in *Gyrophæna*; the eyes considerably larger in diameter than the length of the temples; puncturation exceedingly fine and sparse, scarcely visible. Antennæ with the 3rd joint much shorter and more slender than the 2nd, the 4th small, transverse, 5th to the 10th larger, more transverse, and differing little in breadth amongst themselves, about twice as broad as long. Thorax nearly twice as broad as long, the sides evenly rounded, the posterior angles rounded, the base very slightly bisinuate; puncturation moderately fine, sparing, and obsolete; pubescence fine and sparse. Elytra one-third longer and a little broader than the thorax.

transverse, moderately finely and rather closely punctured; pubescence fine and sparing. Abdomen elongate, gradually and slightly narrowed behind, finely and moderately closely punctured and pubescent throughout.

Ceylon: Bogawantalawa, alt. 4900–5200 feet (*G. Lewis*).

Genus **GYROPHÆNA** Mannerh.

Gyrophæna Mannerh., Mém. Acad. St. Petersb. i, 1830, p. 74; Er., Käf. Mark Brand. i, 1837–39, p. 365; id., Gen. Spec. Staph. 1839–40, p. 182; Lac., Gen. Col. x, 1854, p. 43; Jacq. du Val, Gen. Col. d'Eur. ii, 1857–59, p. 18; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856–58, p. 352; Thoms., Skand. Col. ii, 1860, p. 266; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. v, 1871, p. 17; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 631; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 297; Casey, Trans. Ac. St. Louis, xvi, 1906, p. 278; Blatchley, Col. Indiana, i, 1910, p. 340; Reitt., Faun. Germ. ii, 1909, p. 83; Fenyès, Gen. Ins. 173 A, 1918, p. 95.

BIOLOGY.—Heeger, Sitzber. Ak. Wiss. Wien, x, 1853, p. 460, tab. 1; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856–58, p. 1058; Delaby, Bull. Soc. Linn. Amiens, vi, 1882, p. 69; Rey, Ann. Soc. Linn. Lyon, xxxiii, 1886, p. 164, tab. 1, fig. 18; Rupertsberger, Biol. Lit. Käf. Eur. 1894, p. 118; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 298; Bourgeois, Bull. Soc. Hist. Nat. Colmar, iv, 1904, p. 123; Xamheu, Échange, xxvi, 1910, pp. 25–27; Eichelbaum, Zeitschr. Wiss. Ins. Biol. v, 1909, p. 316.

For the most part small or very small robust species, with transverse head, moderate or large prominent eyes, neck stout, inserted in the thorax; gular sutures widely separated and diverging behind. Below, the eye with a fine raised line which curves upwards and backwards across the base of the head and uniting with its fellow forms a basal marginal line. Antennæ variable. Labrum transverse, the sides and front rounded, lightly emarginate in the middle. Maxillary palpi with very small 1st joint, 2nd slightly curved and a little thickened towards apex, 3rd a little longer and much thicker than the 2nd, 4th subulate, nearly as long as the preceding. Mandibles short, slightly curved, pointed, the right with a very small tooth at the middle of the inner border. Outer lobe of the maxilla as wide as the inner, its apex ciliate; inner lobe obliquely truncate at apex and furnished with fine spines densely placed, the inner margin with a few hairs. Mentum transverse, trapezoidal. Tongue narrow, short, simple, shorter than the 1st joint of the labial palpi. Paraglossæ feeble. Labial palpi 2-jointed, the 1st joint moderately long, stout, cylindrical, the 2nd about half as long as the 1st and much narrower. Thorax transverse, with rounded anterior and posterior angles, the pronotal epipleura more or less strongly reflexed, not or scarcely visible from the side.

Anterior part of the prosternum short, the posterior deflexed part longer, broadly rounded behind. Mesosternum simple, its process broad and extending to or beyond the middle of the coxæ, its apex truncate or emarginate and meeting the metasternum. Elytra not or but slightly emarginate internal to the postero-external angle. Abdomen short and broad, capable of elevation and anteflexion, the first two or three segments impressed transversely at the bases, the impressions linear; in the ♂ with one or more segments showing sexual characters. Legs rather slender, the tibiæ finely ciliate. Tarsi 4, 4, 5, the anterior with the first three joints short and subequal, the 4th a little longer than the preceding combined; middle with 1st joint slightly longer than the 2nd, 2nd and 3rd short, equal, the 4th longer than preceding together; posterior with the 1st joint a little longer than the 2nd, 2nd to 4th equal, rather short, 5th as long as the three preceding together. Claws slightly curved.

The genus is found throughout the world in fungus.

Key the the Subgenera.

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 1. Eyes very large and prominent, occupying the whole side of the head, temples absent. | [p. 59. |
| Abdomen in ♂ with lateral appendages .. | ACANTHOPHÆNA Cam., |
| Eyes normal, temples well developed | 2. [Eich., p. 57. |
| 2. Abdomen in ♂ with lateral appendages ... | ENKENTROPHÆNA |
| Abdomen in ♂ without lateral appendages. | 3. |
| 3. 4th joint of antennæ longer than broad; 3rd abdominal segment (and sometimes the 4th) with a median tubercle on keel; large robust species..... | [Schub., p. 61. |
| | ORPHNEBIOIDEA |
| 4th joint of antennæ usually small and transverse; 3rd abdominal segment rarely with a tubercle or transverse ridge †; less robust species | 4. |
| 4. Head strongly transverse, strongly retracted behind the eyes..... | [p. 65. |
| | GYROPHÆNA, s. str., |
| Head less transverse, more gradually retracted behind the eyes..... | [Rey, p. 140. |
| | PHÆNOGYRA Muls. et |

Subgenus *ENKENTROPHÆNA* Eich.

Enkentrophæna Eich., Arch. Naturg. lxxix, 1913, p. 139; Fenyès, Gen. Ins. 173 A, 1918, p. 96.

In this subgenus the eyes are of normal size and the post-ocular region well developed and retracted to the neck, and the abdomen is appendiculate at the sides in the ♂.

† In *kashmirensis*, *immatura*, *læta*, and *sexualis*.

Key to the Species.

- Elytra finely but deeply punctured ; ♂, 4th dorsal segment on each side with a lamella, 7th with a large tubercle, 8th with the posterior margin obtusely angulate at the sides, in the middle with a small rounded lobe *championi*, sp. n., p. 58.
- Elytra finely, not deeply punctured ; ♂, 3rd and 4th dorsal segments with a lamella on each side, 7th with a small tubercle, 8th with rounded and finely and obscurely denticulate posterior margin *sequens*, sp. n., p. 59.

1501. *Gyrophæna* (*Enkentrophæna*) *championi*, sp. n.

Shining ; head black, thorax and abdomen dark brown, the margins of the former narrowly and obscurely lighter ;

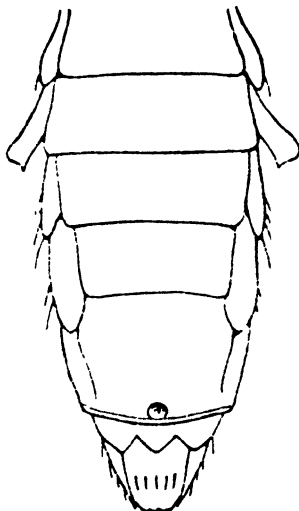


Fig. 10.—*Gyrophæna* (*Enkentrophæna*) *championi*, ♂, abdomen.

elytra brownish-yellow, the postero-external angles infusate. Antennæ and legs yellow. Length 2.5 mm.

In size and build very similar to *fasciata* Marsh. Head a good deal narrower than the thorax, closely, moderately coarsely punctured except along the middle and without ground-sculpture. Antennæ slender, the 3rd joint rather long but shorter than the 2nd, 4th to 6th slightly longer than broad, the 5th and following stouter than the 4th, the penultimate about as long as broad. Thorax a third broader than long, the sides rounded in front, straighter behind, the disc

rather coarsely and closely punctured, the sides impunctate ; ground-sculpture absent. Elytra broader and about a third longer than the thorax, closely and rather finely punctured. Abdomen with rather close, fine, asperate puncturation, the 7th segment with some fine elongate ridges (especially in the ♂), finely coriaceous.

♂: 4th dorsal segment on each side with small flattened lamella with truncate apex ; 7th with large pointed tubercle in the middle near the posterior margin ; 8th with the posterior border obtusely angulate at each side, in the middle with a small rounded lobe, feebly arcuately emarginate between the lobe and the external angulation.

Naini Tal, alt. 7000–8600 feet (*H. G. Champion*).

1502. *Gyrophæna* (*Enkentrophæna*) *sequens*, sp. n.

Size, build, and colour of *championi*, but the head with smaller punctures, the elytra more finely, less deeply and rather less closely punctured, and with different ♂ characters.

♂: 3rd and 4th abdominal segments on each side with a pointed lamella ; 7th with a small tubercle at the middle of the posterior margin ; 8th gently rounded, finely and obscurely denticulate.

Ghum district : Lepchajagat, alt. 8000 feet

Subgenus *ACANTHOPHÆNA* Cam.

Acanthophæna Cam., *Stylops*, iii, 1934, p. 23.

Distinguished from all the other subgenera by the very large and prominent eyes, which occupy the whole side of the head as in the American subgenus *Phanerota* Cas., but with the abdomen appendiculate in the males, whilst the females have the 8th dorsal segment more or less forcipate or furnished on each side with a tooth. The mesosternal process is shorter than in *Gyrophæna*, s. str., and *Phænogyra*, extending only to about the middle of the coxæ, whilst the metasternal process is correspondingly elongate. The antennæ are slender, the 3rd joint almost as long as the 2nd, the 4th longer than broad.

Key to the Species.

- | | | |
|----------------------------------------------------------------------------|---------------------------------|---------|
| 1. Antennæ entirely testaceous | 2. | |
| Antennæ black, the first four joints and apex of the last testaceous | <i>rufiventris</i> Cam., | [p. 61. |
| | | [p. 60. |
| 2. Larger, 3.2–3.8 mm | <i>insigniventris</i> , sp. n., | |
| Smaller, 2.5 mm. | <i>appendiculata</i> Motsch., | [p. 60. |

1503. *Gyrophæna* (*Acanthophæna*) *appendiculata*. (Plate I, fig. 4.)

Gyrophæna appendiculata Motsch., Bull. Mosc. xxxi, 1858, iii, p. 228.

Gyrophæna laminata Kr., Arch. Naturg. xxv, 1859, p. 45, tab. 1, fig. 11.

Shining, yellowish-red, the head black, the elytra posteriorly or more or less extensively and the 6th and 7th abdominal segments infuscate. Antennæ and legs reddish-yellow. Length 2·5 mm.

Head narrower than the thorax, the eyes very large, the front on each side with a small puncture, towards the base on each side with a few others. Antennæ slender, the 3rd joint almost as long as the 2nd, 4th a little longer than broad, the following gradually decreasing in length, the penultimate about as long as broad. Thorax strongly transverse, the sides gently rounded and with four erect black setæ, on the disc with four small quadrately placed punctures, at the sides with one or two others. Elytra a little longer and broader than the thorax, in the ♂ with fine scattered granules, in the ♀ with fine scattered punctures, at the sides with four black setæ. Abdomen a little narrowed at the base and apex, with very small, flattened, triangular tubercles or asperate punctures, each with a small hair at apex, those near the posterior margin of the segments more developed; sides with some black setæ.

♂: elytra granular; 5th segment on each side with a lamelliform appendage, narrowed towards the rounded apex; 7th before the posterior margin with a transverse row of six little keels; 8th on each side with a stout cultriform process, in the middle with a stout tooth with rounded apex, a little shorter than the lateral processes.

♀: elytra simply punctured; 8th dorsal segment on each side with a stout triangular tooth, in the middle with a pair of minute teeth.

"Ind. or."—without further indication. Also in the Malay Peninsula, Philippines, etc.

1504. *Gyrophæna* (*Acanthophæna*) *insigniventris*, sp. n.

In all respects like *appendiculata* but larger, 3·2–3·8 mm., and with different ♂ characters.

♂: elytra with a few small granules; 5th dorsal segment on each side with a slightly curved, sharp black spine overlying a triangular lamelliform appendage very similar to that of *appendiculata*; 7th dorsal segment with a row of eight fine

keels near the posterior border ; 8th narrowed and produced on each side as a stout flat process rounded at the apex, in the middle with a small triangular bifid lobe.

♀ : elytra with a few extremely fine, simple punctures ; 8th segment very similar to that of the ♂.

Madras : Nilambur (*S. N. Chatterjee*).

1505. *Gyrophæna* (*Acanthophæna*) *rufiventris*.

Gyrophæna rufiventris Cam., E. M. M. lvi, 1920, p. 50.

Bright reddish-testaceous, shining, the head black, the elytra except the base blackish. Antennæ black, the first four joints and apex of the last yellow. Legs reddish-yellow. Length 2.75 mm.

Scarcely differing in size, build, and antennal structure from *appendiculata*, but with differently coloured antennæ, the abdomen not at all infusate.

♀ : elytra very sparingly, simply punctured ; 8th dorsal segment on each side with a stout cultriform process, the margin between truncate ; 7th with a transverse row of six obsolete tubercles, 6th with four very indistinct ones near the posterior margin.

In the original description this was taken to be the ♂ owing to the processes of the 8th segment ; as, however, both *appendiculata* and *insigniventris* possess somewhat similar processes in the ♀, it seems probable that the ♂ will be found to have lateral abdominal appendages in this species.

Ceylon : Galle, Kitulgala, Dikoya (*Lewis*).

Subgenus *ORPHNEBIOIDEA* Schub.

Orphnebioidea Schub., D. E. Z. 1908, p. 611 ; Fenyès, Gen. Ins. 173 A, 1918, p. 97.

Large robust species, somewhat resembling the genus *Orphnebius* Motsch. in facies. The eyes are of normal size, the antennæ slender, with the 4th joint longer than broad. The mesosternal process extends the whole length of the coxæ to meet the metasternum. The sutural margin of the elytra is sometimes somewhat elevated posteriorly. The abdomen is without lateral appendages in the males, but the 3rd segment is furnished with a small median tubercle (sometimes the 4th also) or raised line. The character given by Schubert, that the 4th joint of the anterior tarsi is longer than the three preceding together, applies to other subgenera also.

Key to the Species.

1. Head, thorax, and elytra black, abdomen red..... *rostri* Schub., p. 62.
 Otherwise coloured 2.
2. Penultimate joints of antennæ distinctly transverse [p. 64.
tuberculiventris Bernh.,
 Penultimate joints of antennæ fully as long as broad 3.
3. Head and thorax black; more robust species *fraterna*, sp. n., p. 63.
 Head and thorax light chestnut-brown; narrower species *uberrans*, sp. n., p. 64.

1506. *Gyrophæna* (*Orphnebioidea*) *rostri*.

Gyrophæna (*Orphnebioidea*) *rostri* Schub., D. E. Z. 1908, p. 611.

Shining; head, thorax, and elytra black, abdomen red. Antennæ black, the first four joints yellow. Legs reddish, tarsi yellow. Length 3.25–4 mm.

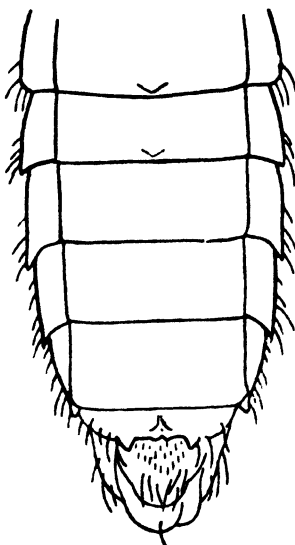


Fig. 11.—*Gyrophæna* (*Orphnebioidea*) *rostri*, ♂, abdomen.

A large robust species. Head transverse, narrower than the thorax, eyes normal, the post-ocular region distinct, retracted behind; at the base of the antennal tubercles with one or two fine punctures, near the base on each side with some larger closely-placed ones. Antennæ slender, rather long, the 1st joint stout, 2nd much more slender and

a little shorter, 3rd as long as but more slender than the 2nd, 4th to 10th all a little longer than broad, gradually decreasing in length, the 11th longer than the 10th. Thorax strongly transverse, convex, the sides evenly rounded with the posterior angles, before the scutellum with two small punctures and on each side of the middle line with a row of about six others, of which the basal one is much larger and deeper than the rest, the most anterior is a good deal smaller than the basal but larger than the intermediate ones, towards the sides with two or three punctures, of which the posterior is the larger and on a level with the large basal puncture of the dorsal series. Elytra a little longer and a good deal broader than the thorax, uneven (especially in the ♂), impressed at the postero-external angles and along the disc, the sutural margin elevated posteriorly, rather strongly and rather closely punctured, less so internally, the shoulders, postero-external angles, and reflexed margin smooth. Abdomen nearly parallel, a little narrowed at apex, less shining than the fore-parts, closely and finely punctured, more sparingly behind, distinctly coriaceous.

♂: elytra more uneven, the sutural margin more elevated behind; abdomen with the 3rd and 4th segments furnished in the middle near the posterior margin with a small tubercle (often obsolete on the 4th); 8th with sharp tuberculiform keel along the middle, the posterior margin on each side with stout, pointed, triangular tooth, in the middle with two smaller teeth close together.

Himalayas: Kulu; Simla district: Fagu, Matiana, Theog, alt. 7000–8000 feet (*Cameron*).

1507. *Gyrophæna* (*Orphnebioidea*) *fraterna*, sp. n.

Shining; head black, thorax dark brown, with the margins narrowly reddish; elytra with the base, humeral callus and inner part of the disc brownish-yellow, the rest blackish; abdomen brownish-yellow. Antennæ blackish, the first four joints yellow. Legs reddish-yellow. Length 3.5 mm.

Size and build of *rostri*, the sculpture throughout very similar; differs in the colour and the penultimate joints of the antennæ being slightly longer; the elytra are similarly impressed. In the ♂ the 3rd and 4th segments each have a small tubercle in the middle on the posterior margin, the 7th has two minute tubercles close together on the posterior margin; 8th with a pointed tubercle in the middle, the posterior margin on each side with a short, pointed, triangular process, in the middle with two little teeth close together.

Darjeeling: Tista Valley, alt. 700 feet (*J. C. M. Gardner*).
Unique.

1508. *Gyrophæna* (*Orphnebioidea*) *tuberculiventris*.

Gyrophæna tuberculiventris Bernh., Col. Rundsch. iv, 1915, p. 58.

Shining; head black, thorax red, elytra yellow, with the postero-external angles black, abdomen red, the 6th and 7th segments blackish. Antennæ and legs reddish-yellow. Length 2.5–3.5 mm.

Build of *rosti* and with very similar ♂ characters, but on the average smaller, differently coloured, the antennæ much shorter, the penultimate joints slightly transverse. Thorax and elytra very similarly punctured to *rosti*, the latter uneven and impressed as in that species; abdomen coriaceous, very finely and closely punctured.

♂: elytra more uneven, the suture more raised behind;

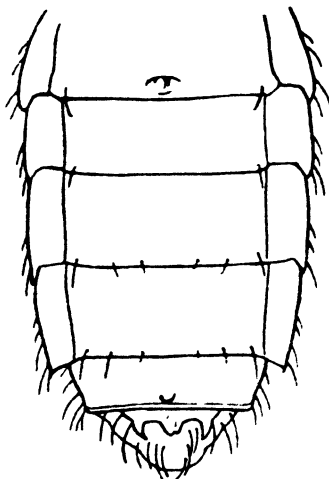


Fig. 12.—*Gyrophæna* (*Orphnebioidea*) *tuberculiventris*, ♂, abdomen.

3rd and 7th abdominal segments with a small tubercle in the middle at the posterior margin, sometimes also with a yet smaller one on the 4th; 8th with sharp median tuberculiform keel, the posterior margin on each side with pointed triangular process, in the middle with two little teeth close together.

Kashmir: Pir Panjal (*Rost*). Simla Hills; Matiana, alt. 7000 feet (*Cameron*).

1509. *Gyrophæna* (*Orphnebioidea*) *aberrans*, sp. n.

Shining, pale castaneous, the elytra yellowish, scarcely infuscate postero-externally. Antennæ yellowish-red, the first two joints slightly infuscate. Legs reddish-yellow. Length 4 mm.

♂ : narrower than *tuberculiventris*, more uniformly coloured, the antennæ longer and more slender. Head transverse, narrower than the thorax, eyes moderate, temples short, retracted to the neck, smooth along the middle, at each side with five or six punctures of unequal size ; ground-sculpture absent. Antennæ with the 2nd and 3rd joints of equal length, 4th to 8th elongate, gradually decreasing in length, 9th and 10th about as long as broad, 11th a little shorter than the two preceding together. Thorax a fourth broader than long, widest a little before the middle, the sides a little more retracted behind, the angles rounded, on each side of the middle with a row of four punctures, the anterior and posterior usually larger than the others, externally with two more : ground-sculpture absent. Elytra broader and a fourth longer than the thorax, with close, rugulose, moderately fine sculpture. Abdomen a little narrowed behind, closely and finely punctured on the first two visible segments, the first of them with a small tubercle at the middle of the posterior margin, the 2nd with a more or less strongly developed median keel, 3rd and 4th closely and finely striate, 5th with a few fine obsolete punctures and a row of six tubercles along the posterior margin, 6th finely and closely granular, the posterior margin truncate and with four larger granules.

♀ : unknown.

Simla Hills : Matiana. Ghum district : Rongdong Valley.

Subgenus *GYROPHÆNA* (s. str.) Ganglb.

Gyrophana (s. str.) Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 300; Fenyès, Gen. Ins. 173 A. 1918, p. 97.

Distinguished by the strongly transverse head, the prominent but only moderately large eyes, the abdomen without lateral spines in the ♂, and usually with the 3rd, 4th, and 5th visible segments unmodified, the only exceptions being *kashmirensis*, *leeta*, *biarmata*, and *immatura*. It is extremely difficult to tabulate the species ; I therefore give a key for the males and another based on general characters ; in some cases, however, the ♂ is unknown and in others the female, also the ♂ characters vary somewhat, a spine may be divided or suppressed in some individuals or a tubercle absent. The key based on general characters is divided into three main groups, the first in which the thorax presents on each side of the middle a row of three to five punctures, the second in which the row is composed of more numerous punctures, six to nine, and the third in which the disc is irregularly punctured but often presenting two larger pre-basal punctures or four larger quadrately placed ones, the pre-basal and post-apical. In individuals, however,

of the first group occasionally one or two small punctures are found between the dorsal rows, so that no hard and fast line between the groups can be drawn.

Key to the Species, based on the ♂ characters †.

1. Only the 8th or 7th and 8th segments modified 6.
The 3rd, 4th or 5th segments also modified 2.
2. 5th dorsal with the posterior margin broadly arcuately emarginate in the middle and obliquely truncate on each side to the lateral border; 7th with a large tubercle; 8th with the posterior margin gently rounded in the middle and furnished with a tubercle, on each side with a slender spine; elytra raised along the suture on each side posteriorly.
5th dorsal segment not modified *biarmata*, sp. n., p. 110. 3.
3. 3rd dorsal segment with a transverse ridge across the middle 4.
3rd dorsal segment with or without a tubercle 5.
4. Larger (3 mm.); thorax darker on disc, elytra distinctly infusate postero-externally *sexualis*, sp. n., p. 111.
Smaller (2.3 mm.); thorax clear reddish-yellow, elytra entirely yellow *læta*, sp. n., p. 113.
5. 3rd dorsal segment with a strong tubercle; 7th with transverse row of granules; 8th with a strong tubercle in the middle and a tooth on each side [p. 105.
kashmirensis Bernh.,
3rd dorsal segment with or without a minute tubercle; 7th with a strong tubercle; 8th with a median tooth and small lateral spine on each side; sutural margin of elytra often raised behind on each side *immatura* Kr., p. 81.
6. 8th dorsal segment produced as a strong median spine, lateral processes absent; postero-external angles of elytra carinate. 8th dorsal segment otherwise *minuta*, sp. n., p. 96. 7.
7. 8th dorsal segment on each side with a small tooth or acutely angulate 8.
8th dorsal segment on each side with a cultriform process or spine 25.
8. Elytra granular 9.
Elytra simply or asperately punctured ... 12.
9. 7th dorsal segment without tubercles ... 11.
7th dorsal segment with one or more tubercles 10.
10. 7th dorsal segment with a tubercle *furcata* Motsch., p. 89.
7th dorsal segment with four small tubercles [p. 89.
cicatricosa Motsch.,

† Two species, *picipes* and *difficilis*, occur twice in the Key, as the lateral process of the 8th dorsal segment is intermediate in character between a tooth and a short cultriform process: *mangalorensis*, *parkeri*, and *sikkimensis* also occur twice.

11. 8th dorsal segment with a tubercle, broadly arcuately emarginate, on each side with a small tooth *ceylonica*, sp. n., p. 91.
 8th dorsal segment with a narrow median lobe, on each side with a small tooth not extending beyond the median lobe
12. 7th dorsal segment without tubercles *subjecta* Walk., p. 90.
 7th dorsal segment with one or more tubercles 13.
13. 8th dorsal segment broadly and feebly emarginate, on each side with a small tooth 14.
 8th dorsal segment rounded between the lateral teeth, these larger 15.
14. Antennæ entirely yellow; thorax more closely punctured [p. 120.
 Antennæ yellow, the 1st and 5th joints black; thorax much less closely punctured *densicollis*, sp. n.,
 [p. 133.
maculicornis, sp. n.,
15. 8th dorsal segment with a tubercle near the posterior margin; 4th joint of antennæ small, transverse 16.
 8th dorsal segment without tubercle; 4th joint of antennæ longer than broad.
16. Dark species; antennæ except base black. Light castaneous species; antennæ reddish-yellow *sororcula*, sp. n., p. 119.
nigra Motsch., p. 93.
17. 7th dorsal segment with a tubercle, bifid in *trifida* *tamula*, sp. n., p. 94.
 7th dorsal segment with more than one tubercle 18.
18. 8th dorsal segment broadly arcuately emarginate, angulate on each side 21.
 8th dorsal segment with a small median rounded lobe or obtusely angulate
19. 8th dorsal segment with a rounded median lobe, the lateral teeth very small; 4th joint of antenna transverse *pallida*, sp. n., p. 100.
 8th dorsal segment with an obtuse median tooth shorter than the lateral teeth; 4th joint of antenna longer than broad. 19.
20. Larger (1.75-2 mm.); median lobe of 8th dorsal segment feeble; species in greater part black, antennæ except the base black 20.
 Smaller (1.4 mm.); median lobe of 8th dorsal segment well developed and produced beyond the level of the lateral teeth; species in greater part reddish; antennæ reddish-yellow *picipes*, sp. n., p. 118.
trifida Motsch., p. 92.
21. 7th dorsal segment with two tubercles; 8th with two small central teeth *incola*, sp. n., p. 137
 7th dorsal segment with three or four tubercles *mirta*, sp. n., p. 129.
 22.
22. 8th dorsal segment with small rounded median lobe 23.
 8th dorsal segment with a pair of minute teeth 24.
23. Species in greater part dark *rigida* Motsch., p. 93.
 Species in greater part light castaneous .. *bisinuata*, sp. n., p. 96.

24. Antennæ infusate *difficilis*, sp. n., p. 129.
 Antennæ clear reddish-yellow *abjecta*, sp. n., p. 138.
25. Posterior margin of the 8th dorsal segment without distinct spines or teeth between the lateral processes 26.
 Posterior margin of the 8th dorsal segment with either one or more spines or teeth between the lateral processes or obtusely angulate or lobiform 42.
26. 7th dorsal segment with a tubercle or tubercles 31.
 7th dorsal segment without tubercle 27. [p. 107.]
27. Fore-parts with distinct metallic reflex... *submetallica*, sp. n.,
 Fore-parts without metallic reflex 28.
28. Elytra with very distinct retiform ground-sculpture 29.
 Elytra without ground-sculpture *bicornis*, sp. n., p. 109.
bispinosa, sp. n., p. 126.
29. Antennæ except base black 30.
 Antennæ reddish-yellow, at most with the 10th and 11th joints infusate [p. 135.]
 Larger (2.5 mm.) and more robust; thorax black; 10th and 11th joints of antennæ infusate *malabarensis*, sp. n.,
 Smaller (1.8-2 mm.) and narrower; thorax castaneous; antennæ entirely reddish-yellow [p. 136.]
ulambura, sp. n.,
31. 7th dorsal segment with a tubercle, sometimes bifid 32.
 7th dorsal segment with two or more tubercles 40.
32. Thorax biserially punctured 34.
 Thorax irregularly punctured 33.
33. Penultimate joints of antennæ a little longer than broad [p. 117.]
 Penultimate joints of antennæ slightly transverse *bigladiosa*, sp. n.,
 [collis Schub., p. 80.]
permutaria var. *puncti-*
34. Penultimate joints of antennæ longer than broad; tubercle of 7th dorsal segment bifid; large (2.75 mm.) robust species *gardneri*, sp. n., p. 97.
 Penultimate joints of antennæ not longer than broad; smaller species 35.
35. Elytra very sparingly punctured 36.
 Elytra rather closely punctured 37.
36. Larger (2.5 mm.); antennæ black, the base only yellow [p. 83.]
 Smaller (2 mm.); antennæ entirely reddish-yellow *sparsipennis*, sp. n.,
indigena, sp. n., p. 81.
37. Abdomen bright yellowish-red, scarcely infusate before the apex *andrewesi*, sp. n., p. 83.
 Abdomen pitchy or brownish-yellow 38.
38. Elytra moderately finely, deeply punctured *almorensis*, sp. n., p. 80.
 Elytra finely, less deeply punctured 39.
39. Head with larger and more numerous punctures; 8th segment with the processes longer, more slender and incurved *bicornuta*, sp. n., p. 81.
 Head with smaller and fewer (about six) punctures; 8th segment with shorter, stouter and straight processes [p. 79.]
permutaria Schub.,

40. 7th dorsal segment with two little tubercles. 41.
 7th dorsal segment with four little
 tubercles; elytra finely and closely
 punctured *limbata*, sp. n., p. 99.
41. Tubercles of 7th dorsal segment almost
 contiguous; darker species, the abdomen
 pitchy-black; elytra moderately finely
 punctured *forcipata*, sp. n., p. 80.
 Tubercles of 7th dorsal segment separated;
 brownish-yellow species; elytra very
 finely and very sparingly punctured ... *chatterjeei*, sp. n., p. 95.
42. 7th dorsal segment without a tubercle or
 tubercles 43.
 7th dorsal segment with a tubercle or
 tubercles 57.
43. 8th dorsal segment with a median process
 or bifid plate (see also 56, *cognata*) 44.
 8th dorsal segment with two or more
 median processes 45.
44. 8th dorsal segment with a short median
 truncate spine as long as the lateral
 processes [p. 92.
mangalorensis, sp. n.,
 8th dorsal segment with a median process
 bifid at apex *lacca*, sp. n., p. 82.
45. 8th dorsal segment with two median
 processes 46.
 8th dorsal segment with more than two
 median processes 54.
46. Median processes as long as the lateral .. 47.
 Median processes shorter than the lateral. 48.
47. All the processes short and stout; an-
 tenne yellow; larger species (3 mm.) .. *sikkimensis*, sp. n., p. 85.
 All the processes long and slender;
 antennae except base blackish; smaller
 (1.5-2 mm.) *pallipes* Kr., p. 134.
48. Antennae entirely yellow 49.
 Antennae at least infuscate towards apex . 50.
49. Larger (1.8-2 mm.); thorax closely punc-
 tured all over [p. 131.
 Smaller (1.75 mm.); thorax biserially
 punctured *densipennis*, sp. n.,
fletcheri, sp. n., p. 88.
50. Penultimate joints of antennae not trans-
 verse 51.
 Penultimate joints of antennae transverse. 53.
51. Thorax and elytra pitchy-black *proxima*, sp. n., p. 120.
 Thorax and elytra otherwise 52.
52. Thorax dark brown, narrowly and sharply
 bordered with yellow *thoracica*, sp. n., p. 112.
 Thorax yellowish-red or reddish-yellow... *aneipsia*, sp. n., p. 114
53. Head with umbilicate punctures; thorax
 reddish-yellow, with four large quadzately
 placed punctures, elytra yellow *amica*, sp. n., p. 116.
 Head with very fine simple punctures;
 thorax and elytra pitchy, the former
 without quadzately placed punctures .. [p. 140.
obscurella, sp. n.,
54. 8th dorsal segment between the lateral
 processes with three or four teeth or
 spines 55.
 8th dorsal segment between the lateral
 processes with six sharp spines or teeth. *multifida*, sp. n., p. 132.

55. 8th dorsal segment between the lateral processes with three spines or teeth 56.
 8th dorsal segment between the lateral processes with four short spines [p. 85
 sikkimensis, sp. n.,
56. 8th dorsal segment with a large central tooth and a very small one (sometimes absent) on each side between it and the lateral process *cognata*, sp. n., p. 106.
 8th dorsal segment with three small equal teeth [p. 92.
 mangalorensis, sp. n.,
57. 7th dorsal segment with a tubercle 58.
 7th dorsal segment with two or more tubercles 62.
58. 8th dorsal segment with a median spine (sometimes bifid) or obtusely angulate in the middle 59.
 8th dorsal segment with two median spines or teeth 60.
59. 8th dorsal segment with the lateral processes short, the margin obtusely angulate in the middle *picipes*, sp. n., p. 118.
 8th dorsal segment with long, slender, lateral processes, in the middle with a long, slender spine, sometimes bifid [p. 130.
 abnormalis, sp. n.,
60. Tubercle of the 7th dorsal segment very large: antennæ, except base, black, the penultimate joints not transverse [p. 108.
 Tubercle of the 7th dorsal segment moderate *himalayica*, sp. n.,
61. Antennæ entirely reddish-yellow, the penultimate joints not transverse 61.
 Antennæ blackish, the base yellow, the penultimate joints transverse *faguana*, sp. n., p. 112.
 siva, sp. n., p. 138.
62. 7th dorsal segment with two tubercles or keels 63.
 7th dorsal segment with three to six tubercles or keels 67.
63. Head reddish-yellow; central teeth of the 8th dorsal segment very small and situated near the bases of the lateral processes *gratella*, sp. n., p. 139.
 Head darker, black or blackish 64.
64. Elytra with distinct retiform ground-sculpture 65.
 Elytra without ground-sculpture 66.
65. Larger (2 mm.) and darker, the thorax dark pitchy-brown *lepcha*, sp. n., p. 125.
 Smaller (1.75 mm.) and lighter, the thorax light chestnut-brown *dejecta*, sp. n., p. 124.
66. Larger (2.75 mm.) and brighter coloured, the elytra yellow infusate at the postero-external angles; antennæ yellow *festiva*, sp. n., p. 115.
 Smaller (2 mm.) and darker, the elytra yellowish-brown; antennæ reddish-yellow, the 1st and 4th joints infusate [p. 115.
 ghumensis, sp. n.,
67. 8th dorsal segment with a median process, sometimes bifid, or rounded lobe; 7th segment with four keels 68.
 8th dorsal segment with two or more central processes 71.

68. Median process simple, spiniform or lobiform 69.
 Median process bifid 70.
69. Median process of 8th dorsal segment spiniform; dark species, the antennæ reddish-yellow, the penultimate joints scarcely transverse [p. 116.
tripartita, sp. n.,
- Median process lobiform; brownish-yellow species, the antennæ reddish-yellow, scarcely infusate, the penultimate joints distinctly transverse *livida* Motsch., p. 134.
70. Thorax biserially punctured; elytra with distinct retiform ground-sculpture *fissidens*, sp. n., p. 101.
 Thorax finely irregularly punctured; elytra with finer ground-sculpture *parkeri*, sp. n., p. 127.
71. 8th dorsal segment between the lateral processes with two or four spines or teeth 72.
 8th dorsal segment between the lateral processes with three spines or teeth 89.
72. 8th dorsal segment with two median spines, between them and the lateral processes with a smaller one on each side 73.
 8th dorsal segment with only two spines or teeth between the lateral processes .. 75.
73. Thorax bisulcate, the sulci punctured ... 74.
 Thorax not bisulcate *gregaria*, sp. n., p. 124.
74. Larger (2.5 mm.); elytra more strongly and deeply punctured *suspecta*, sp. n., p. 104.
 Smaller (2 mm.); elytra more finely and superficially punctured [p. 102.
sexspinosa, sp. n.,
75. Thorax biserially punctured 76.
 Thorax irregularly punctured 79.
76. Head bright yellowish-red 77.
 Head blackish 78.
77. Larger (1.75 mm.); thorax not sulcate, biserially punctured; antennæ infusate, the penultimate joints scarcely transverse. Smaller (1.5 mm.); thorax bisulcate; antennæ reddish-yellow, the penultimate joints distinctly transverse *rubeola*, sp. n., p. 87.
78. Larger (2.75 mm.); penultimate joints of antennæ not transverse; thorax bright yellowish-red [p. 103.
 Smaller (2 mm.); penultimate joints of antennæ distinctly transverse; thorax reddish-brown *rufobrunnea*, sp. n.,
79. Thorax strongly coriaceous [p. 84.
 Thorax feebly coriaceous *montivagans*, sp. n.,
80. Thorax less transverse, the sides straighter behind [p. 86.
 Thorax strongly transverse *quadrispinosa*, sp. n.,
81. Dark species; median spines of 8th dorsal segment very short *kaliana*, sp. n., p. 122.
 Brightly coloured species; median spines of 8th dorsal segment almost as long as the lateral processes 80.
82. Larger (2.5-2.75 mm.) and more robust; elytra entirely yellow; abdomen yellowish-red, the 5th and 6th segments slightly infusate in the middle 81.
 83.
- *deficiens*, sp. n., p. 128.
- 82.
- [p. 121.
quadricarinata, sp. n.,

- Smaller (2 mm.) and narrower; elytra infusate at the postero-external angles; abdomen pitchy-black, the base and apex lighter [p. 108.
quadrifida, sp. n.,
madrasiana, sp. n.,
83. Antennæ clear reddish-yellow 84. [p. 136.
Antennæ at least infusate
84. Antennæ with the penultimate joints as long as broad [p. 123.
Antennæ with the penultimate joints distinctly transverse 85.
85. More convex; species in greater part bright yellowish-red; elytra moderately finely punctured *distincta*, sp. n., p. 133.
Less convex, more obscurely coloured; elytra finely or very finely punctured... 86.
86. Lateral process of the 8th dorsal segment rather long, the median well developed . 87.
Lateral process of the 8th dorsal segment short, the median minute *difficilis*, sp. n., p. 129.
87. Head and thorax obscure yellowish-red; elytra without ground-sculpture *obscura*, sp. n., p. 139.
Head black; elytra with distinct retiform ground-sculpture 88.
88. Larger (2.5-3 mm.); thorax less finely, more closely punctured *beesoni*, sp. n., p. 126.
Smaller (2 mm.); thorax more finely, less closely punctured *parkeri*, sp. n., p. 127.
89. Thorax bisulcate, the sulci punctured *seriata*, sp. n., p. 102.
Thorax not bisulcate, biserially punctured..... [p. 98.
sexcarinata, sp. n.,

Key to the Species, based on general characters †.

1. 10th joint of antennæ very long, cylindrical, as long as the 8th and 9th together, 11th a little longer than the 10th *antennaria*, sp. n., p. 78
2. Antennæ normally constructed 2.
2. Thorax on each side of the middle with a row of 3-9 punctures 3.
- Thorax with the disc irregularly punctured, often with 4 larger quadrately placed punctures comprising the pre-basal and post-apical (Sect. IV, p. 106) . 45.
3. The dorsal row consisting of 3-5 punctures (Sect. I, p. 78)..... 4.
- The dorsal row consisting of 6-9 punctures, usually somewhat irregular..... 35.
4. Thorax less transverse, formed as in *gentilis*, *affinis*, and *poweri* 5.
- Thorax strongly transverse, as in *nana* and *minima* 22.
5. Antennæ with the penultimate joints longer than broad, infusate *dispersa*, sp. n., p. 84.
- Antennæ with the penultimate joints as long as broad or transverse 6.
6. Penultimate joints as long as broad..... 7.
- Penultimate joints distinctly transverse .. 21.

† From this Key is omitted *kashmirensis* Bernh.

7. Antennæ clear reddish-yellow 8.
 Antennæ dark or infusate 14.
8. Large (3 mm.) dark species, the thorax
 strongly dilated and rounded in front,
 strongly retracted behind [p. 85.
sikkimensis, sp. n.,
- Smaller and lighter-coloured species, the
 thorax less dilated in front, as in *gentilis*,
affinis, and *poweri* 9.
9. Thorax as in *gentilis* *xanthocera*, sp. n., p. 87.
 Thorax as in *affinis* and *poweri* 10. [p. 87.
kotgarhensis, sp. n.,
10. Thorax as in *poweri* 11.
 Thorax as in *affinis* *forcipata*, sp. n., p. 80.
11. Thorax and elytra pitchy-black 12.
 Thorax and elytra lighter *bicornuta*, sp. n., p. 81.
12. Head on each side with about 10 punctures 13.
 Head with fewer punctures [p. 79 †.
permutaria Schub.,
13. Larger (2.5 mm.); elytra more closely
 punctured *indigena*, sp. n., p. 81.
 Smaller (2 mm.); elytra more sparingly
 punctured 15.
14. Thorax as in *gentilis* 17.
 Thorax as in *affinis* *andrewesi*, sp. n., p. 83.
15. Elytra closely punctured 16.
 Elytra very sparingly punctured or nearly
 impunctate *lacca*, sp. n., p. 82.
16. Very shining species; the elytra bright
 lemon-yellow, black at the postero-
 external angles, almost impunctate. [p. 83.
 Less shining species; the elytra reddish-
 yellow, infusate at the postero-external
 angles, very sparingly punctured. *sparsipennis*, sp. n.,
permutaria Schub.,
17. Thorax pitchy 18. [p. 79.
 Thorax bright yellowish-red 20.
18. Larger (2.75 mm.); head reddish-brown 19.
 Smaller (1.75–2 mm.); head yellowish-red.
19. Head with several large punctures on each
 side; elytra a little longer than the
 thorax; species without metallic reflex.
 Head with a few fine punctures on each
 side; elytra nearly a half longer than
 the thorax; species with metallic reflex.
20. Elytra moderately finely, closely and
 deeply punctured *rubeola*, sp. n., p. 87.
 Elytra very finely, sparingly and super-
 ficially punctured *immatura* Kr., p. 81.
21. Larger (2 mm.) more brightly coloured;
 antennæ infusate *almorensis*, sp. n., p. 80.
 Smaller (1.5 mm.), pitchy-black species;
 antennæ clear reddish-yellow [p. 84.
montivagans, sp. n.,
22. Penultimate joints of antennæ as long
 as broad; small (1.2 mm.) ferruginous-
 red species [p. 86.
quadrispinosa, sp. n.,
23. Penultimate joints of antennæ transverse. *fletcheri*, sp. n., p. 88.
 Antennæ except the base dark 23.
 Antennæ clear reddish-yellow, at most with
 the apex of 11th joint infusate. 24.
 24. 23.

† See also 17. The antennæ are occasionally infusate.

24. Small (1·3 mm.) dark species, with distinct purplish metallic reflex [p. 96.
purpurascens, sp. n., 25.
25. Species in great part castaneous; length 1·4 mm. *bisinuata*, sp. n., p. 96.
 Species in greater part black or pitchy-black; the elytra often yellow at the shoulders or extensively yellow 26.
26. Species without ground-sculpture on the fore-parts 27.
 Species with ground-sculpture 31.
27. Elytra granular in ♂ 28.
 Elytra not granular in ♂ 29.
28. 7th dorsal segment with tubercle in ♂ *furcata*, Motsch., p. 89.
 7th dorsal segment without tubercle in ♂ *subjecta* Walk., p. 90.
29. Larger (2·2 mm.) and more robust *mangalorensis*, sp. n., 30.
 Smaller (1·75–2 mm.) [p. 92.
30. Elytra largely yellow; 7th dorsal segment with a tubercle in ♂ *trifida* Motsch., p. 92.
 Elytra black; 7th dorsal segment without tubercle in ♂ *nigra* Motsch., p. 93.
31. Smaller (1·2 mm.) and darker; elytra in ♂ with very fine sparing, asperate punctures *rigida* Motsch., p. 93.
 Larger (2 mm.); elytra in ♂ with granular sculpture 32.
32. Darker species; 7th dorsal segment without a tubercle in ♂ *ceylonica*, sp. n., p. 91.
 Lighter species; 7th dorsal segment with a row of small tubercles in ♂ [p. 89.
cicatricosa Motsch.,
33. Minute (scarcely 1 mm.) species; colour dark *minuta*, sp. n., p. 96.
 Larger (1·8–2 mm.) castaneous species ... 34.
34. Fore-parts with distinct ground-sculpture. *tamula*, sp. n., p. 94.
 Fore-parts without trace of ground-sculpture *chatterjeei*, sp. n., p. 95
35. Dorsal rows of punctures not situated in sulci (Sect. II, p. 97) 36.
 Dorsal rows of punctures situated in sulci (Sect. III, p. 102) 41.
36. Antennæ (except base) black; the penultimate joints longer than broad; large (2·2 mm.) robust species *gardneri*, sp. n., p. 97.
 Antennæ reddish-yellow, sometimes slightly infusate; the penultimate joints not longer than broad 37.
37. Penultimate joints of antennæ as long as broad or scarcely transverse 38.
 Penultimate joints of antennæ distinctly transverse 40.
38. Larger (2·2 mm.) and more robust; thorax formed as in *gentilis* [p. 98.
 Smaller (1·75–2 mm.) and narrower; thorax formed as in *poweri* *sarcinata*, sp. n., 39.
39. More brightly coloured species; head with finer punctures, thorax without ground-sculpture *pallida*, sp. n., p. 100.
 Darker species; head with larger punctures, thorax with distinct ground-sculpture *fissidens*, sp. n., p. 101.

40. Darker species; elytra extremely finely, rather sparingly punctured [p. 99.
tenuipunctata, sp. n.,
- Lighter species; elytra finely and closely punctured
limbata, sp. n., p. 99.
41. Larger (2·2 mm.) and more robust; thorax formed as in *gentilis*; antennæ dark, the penultimate joints slightly transverse
suspecta, sp. n., p. 104.
- Smaller species; antennæ reddish-yellow, the penultimate joints distinctly transverse, more or less infusate 42.
42. Elytra rather coarsely punctured 43.
- Elytra finely punctured 44.
43. 4th dorsal segment of the abdomen with a little keel on each side of the middle . . .
 4th dorsal segment without keel (♂ and ♀).
soror, Bernh., p. 106.
44. Head black, more coarsely punctured; antennæ longer and darker, the penultimate joints less transverse
seriata, sp. n., p. 102.
- Head reddish, less coarsely punctured; antennæ shorter, less infusate, the penultimate joints more transverse [p. 102.
seraspinosa, sp. n.,
45. Thorax with four larger quadrately placed punctures on the disc [p. 103.
rufobrunnea, sp. n.,
- Thorax without such punctures, sometimes with two larger basal punctures .. 46.
46. 4th joint of antennæ as long or longer than broad, the penultimate joints not transverse 62.
- 4th joint of antennæ small, transverse ... 47.
47. Antennæ clear reddish-yellow 50.
- Antennæ dark, the base only reddish-yellow
faguana, sp. n., p. 112.
48. Elytra moderately finely, rather closely and deeply punctured 48.
- Elytra finely, more sparingly and superficially punctured [p. 108.
himalayica, sp. n.,
49. Larger (3·3-3 mm.); thorax as in *pulchella*.
 Smaller (2·3-2·75 mm.); thorax as in *affinis* 49.
50. Penultimate joints of antennæ transverse. Penultimate joints of antennæ fully as long as broad
cognata, sp. n., p. 106.
51. Thorax less transverse, about a third broader than long
bicornis, sp. n., p. 109.
- Thorax more transverse, rather more than a half broader than long 51.
52. Antennæ dark, only the base reddish-yellow 52.
- Antennæ reddish-yellow, at most slightly infusate [p. 108.
quadrifida, sp. n.,
53. Thorax red, the disc sparingly punctured. Thorax darker and with slight metallic reflex, as on the head
amica, sp. n., p. 116.
54. Elytra finely, superficially punctured 53.
- Elytra less finely, deeply punctured 56.
55. Thorax nearly a half broader than long, rather closely punctured 54.
- Thorax a third broader than long, sparingly punctured 55.
- vivida*, sp. n., p. 111.
- biarmata*, sp. n., p. 110.
- sexualis*, sp. n., p. 111.
- submetallica*, sp. n., [p. 107.

56. Antennæ with the 1st and 4th joints infusate [p. 115.
Antennæ at most slightly infusate towards apex *ghumensis*, sp. n., 57.
57. Brightly coloured species 58.
Pitchy-black species 61.
58. Thorax pitchy, the sides narrowly and sharply yellow *thoracica*, sp. n., p. 112.
Thorax entirely reddish-yellow 59.
59. Length 2·3 mm., more robust; thorax a third broader than long and more punctured *læta*, sp. n., p. 113.
Length 2-2·75 mm., narrower; thorax nearly a half broader than long, less punctured 60.
60. Thorax finely, rather closely punctured .. *festiva*, sp. n., p. 115.
Thorax very finely, sparingly punctured .. *anepsia*, sp. n., p. 114.
61. Larger (2 mm.), more robust; thorax closely, moderately finely punctured; elytra deeply punctured ... *nigrita*, sp. n., p. 114.
Smaller (1·5 mm.); thorax very finely punctured; elytra very finely, superficially punctured *tripartita*, sp. n., p. 116.
62. Antennæ except the base black or distinctly infusate 63.
Antennæ entirely reddish-yellow or with the 1st or 1st and 5th joints black 84.
63. Penultimate joints of antennæ not transverse 64.
Penultimate joints of antennæ transverse 74.
64. Brightly coloured species, the head clear reddish-yellow *gratella*, sp. n., p. 139.
Darker species, the head dark 65.
65. 4th joint of antennæ longer than broad... 66.
4th joint of antennæ small, more or less transverse 68.
66. Thorax almost twice as broad as long; antennæ with yellow base *pallipes* Kr., p. 134.
Thorax about a third broader than long; antennæ with pitchy base 67.
67. Larger (2·2 mm.); fore-parts less finely punctured *picipes*, sp. n., p. 118.
Smaller (2 mm.); fore-parts more finely punctured *sorrcula*, sp. n., p. 119.
68. Penultimate joints of antennæ distinctly longer than broad [p. 117.
Penultimate joints of antennæ as long as broad *bigladiosa*, sp. n., 69.
69. Thorax black *proxima*, sp. n., p. 120.
Thorax reddish-brown or reddish-yellow .. 70.
70. Thorax not more than a half broader than long, the sides straighter behind 71.
Thorax more than a half broader than long, the sides evenly rounded 72.
71. Larger (2 mm.); elytra without ground-sculpture *vezans*, sp. n., p. 119.
Smaller (1·8 mm.); elytra with distinct retiform ground-sculpture and very sparingly punctured [p. 126.
hispinosa, sp. n., 73.
72. Elytra less closely punctured *mixtu*, sp. n., p. 120.
Elytra more closely punctured

73. More robust; elytra without ground-sculpture [p. 123.
nilgiriensis, sp. n.,
- Narrower; elytra with fine ground-sculpture *hybrida*, sp. n., p. 137.
74. Thorax not more than a half broader than long, the sides straighter behind 75.
- Thorax more transverse, the sides evenly rounded 77.
75. Larger (2.5–3 mm.), brightly coloured.... 76.
- Smaller (1.75–2 mm.), obscurely coloured. *deficiens*, sp. n., p. 128.
76. Thorax closely, rather coarsely punctured. *glareosa*, sp. n., p. 121.
- Thorax sparingly and more finely punctured..... [p. 121.
- quadricarinata*, sp. n.,
77. Larger (2.5–3 mm.), brightly coloured species 78.
- Smaller (1.1–1.75 mm.) 79.
78. Penultimate joints of antennæ about twice as broad as long; more convex and robust species *distincta*, sp. n., p. 133.
- Penultimate joints of antennæ less transverse; more depressed and narrower species *beesoni*, sp. n., p. 126.
79. Yellowish-red species, only the elytra infusate behind *livida*, Motsch., p. 134.
- More obscurely coloured species 80.
80. Antennæ longer, the penultimate joints slightly transverse 81.
- Antennæ shorter, the penultimate joints more transverse 82.
81. Elytra brownish-yellow, closely and distinctly punctured *siva*, sp. n., p. 138.
- Elytra pitchy, very finely and indistinctly punctured *difficilis*, sp. n., p. 129.
82. Elytra very finely, roughly punctured.... 83.
- Elytra less finely, not roughly punctured. *exigua*, sp. n., p. 125.
83. More robust, head with a few moderate punctures *obscura*, sp. n., p. 139.
- Narrower, head with a few minute punctures [p. 140.
- obscorella*, sp. n.,
84. Antennæ with the 1st or 1st and 5th joints black, the 4th at least as long as broad. 85.
- Antennæ entirely reddish-yellow or scarcely infusate. 86. [p. 133.
85. 1st and 5th joints of the antennæ black... *maculicornis*, sp. n.,
- 1st joint only black. *pagana*, sp. n., p. 133.
86. Penultimate joints of antennæ not transverse 87.
- Penultimate joints of antennæ more or less transverse 92.
87. Darker species; elytra dark 88.
- More brightly coloured; elytra more or less yellow 90.
88. Thorax less transverse, as in *affinis*, and rather coarsely and closely punctured .. *lepcha*, sp. n., p. 125.
- Thorax more transverse, as in *nana*. 89.
89. Larger (2.5 mm.); penultimate joints of antennæ as long as broad; elytra finely and deeply punctured [p. 135.
- Smaller (1.5 mm.); penultimate joints of antennæ longer than broad; elytra finely, superficially punctured *malabarensis*, sp. n.,
- parva*, sp. n., p. 135.

90. Thorax formed as in *fasciata*, about a third broader than long 91.
 Thorax strongly transverse, the sides evenly rounded *multifida*, sp. n., p. 132
91. Thorax and elytra more finely punctured. *kaliana*, sp. n., p. 128.
 Thorax and elytra less finely punctured. *densicollis*, sp. n., p. 120.
 [p. 130.]
92. Thorax with a small fovea on each side a little before the middle *abnormalis*, sp. n.,
 Thorax without such fovea 93.
93. Reddish-yellow species *flavescens*, sp. n. p. 127.
 Darker species; head always dark 94.
94. Head very finely punctured, punctures not umbilicate [p. 131.]
 Head with normal umbilicate punctures *densipennis*, sp. n.,
 95.
95. Thorax less transverse, the sides straighter behind as in *manca* 96.
 Thorax more transverse, the sides evenly rounded 97.
96. Thorax finely, moderately closely and superficially punctured *gregaria*, sp. n., p. 124.
 Thorax less finely, rather sparingly and deeply punctured *dejecta*, sp. n., p. 124.
97. Penultimate joints of antennæ slightly transverse 98.
 Penultimate joints of antennæ distinctly transverse 99.
98. Elytra closely and deeply punctured ... [p. 136.]
 Elytra more sparingly, more finely and superficially punctured *nilambura*, sp. n.,
 [p. 136.]
99. Elytra closely punctured *madrasiana*, sp. n.,
 Elytra sparingly punctured 100.
100. Larger (2 mm.); elytra very finely punctured *incola*, sp. n., p. 137.
 Smaller (1.4 mm.); elytra very finely, roughly punctured *parkeri*, sp. n., p. 127
 *abjecta*, sp. n., p. 138.

SECTION I.

1510. *Gyrophæna* (s. str.) *antennaria*, sp. n.

Shining; head black; thorax and abdomen dark reddish-brown, the former obscurely lighter at the sides, the latter lighter at the base; elytra reddish-yellow, the postero-external region black. Antennæ reddish-brown, the first three joints yellow. Legs yellow. Length 2.75 mm.

At once distinguished from all our species by the structure of the antennæ. In build somewhat resembling *fasciata* Marsh. Head at the sides with larger and smaller umbilicate punctures closely placed, ground-sculpture absent. Antennæ slender, the 3rd joint distinctly shorter than the 2nd, 4th as long as broad, 5th to 9th about as long as broad, not increasing much in width, 10th elongate, fully twice as long as broad, as long as the 8th and 9th together, 11th elongate, a little longer than the 10th. Thorax moderately transverse, the sides very slightly rounded and but little retracted behind, on

each side of the middle with a row of three punctures of which the pre-basal are the largest, the basal very small, between the rows with two or three fine punctures, externally with one or two others; ground-sculpture absent. Elytra broader and about a third longer than the thorax, rather closely, moderately finely punctured, rather more coarsely towards the postero-external angles. Abdomen very finely punctured, the punctures less fine and asperate along the posterior margins of the segments.

♂: unknown.

Ghum district.

1511. *Gyrophæna* (s. str.) *permutaria*.

Gyrophæna permutaria Schub., D. E. Z. 1906, p. 380.

Var. *puncticollis* Schub., l. c. p. 381.

Shining; head black; thorax dark reddish-brown, elytra brownish-yellow, more or less extensively blackish postero-externally; abdomen black, with the base more or less

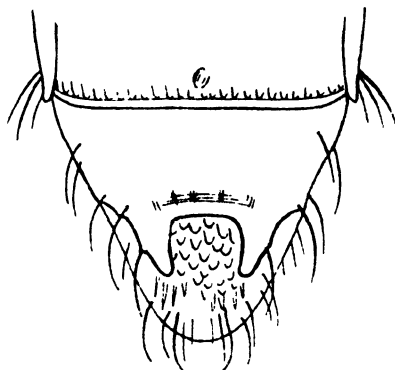


Fig. 13.—*Gyrophæna* (s. str.) *permutaria*, ♂, apex of abdomen.

brown. Antennæ yellow, sometimes slightly infusate towards the apex. Legs yellow. Length 2.5 mm.

Near *affinis* Sahlb., but of darker colour, the elytra much more closely punctured and the ground-sculpture of the fore-parts much less marked. Head a good deal narrower than the thorax, at the sides with a few moderate umbilicate punctures; finely coriaceous. Antennæ with the 4th joint small and transverse, 5th and 6th stouter, as long as broad, the following slightly transverse. Thorax very similar to that of *affinis* in build, a third broader than long, with a row of three small punctures on each side, the pre-basal pair the largest, the two anterior ones situated near the anterior border

and two very small ones between the prebasal and the posterior margin, occasionally without such rows but with a fine scattered puncturation on the disc (var. *puncticollis*); ground-sculpture very feeble. Elytra about a third longer than the thorax, finely and rather closely punctured—especially behind—along the suture with slightly raised impunctate ridge; ground-sculpture distinct. Abdomen very finely and very sparingly punctured, distinctly coriaceous.

♂: 7th dorsal segment with a small tubercle at the middle of the posterior margin; 8th with short, stout, straight cultriform process on each side, the margin between truncate.

Kashmir: Dusu, Songam, Sintan, Gulmarg.

1512. *Gyrophæna* (s. str.) *forcipata*, sp. n.

Shining; head black, thorax and abdomen pitchy brown, elytra brownish-yellow, darker postero-externally. Antennæ reddish-yellow, the last joint slightly infusate. Legs yellow. Length 2 mm.

Build of *permutaria* but smaller, the head and thorax without ground-sculpture, the former with smaller punctures, the antennæ as in *permutaria*. Thorax with punctures as in that species. Elytra with more sparing puncturation than in *permutaria* and consisting of larger and smaller punctures, the ground-sculpture scarcely visible. Abdomen very finely and very sparingly punctured.

♂: 7th dorsal segment with two little tubercles close together at the middle of the posterior border; 8th with a rather stout, slightly curved cultriform process on each side, the border between truncate and somewhat tumid.

Kashmir: Gulmarg.

1513. *Gyrophæna* (s. str.) *almorensis*, sp. n.

Head pitchy-black, reddish towards the front, thorax reddish-brown, elytra yellowish-brown, abdomen brown with the posterior margins of the segments narrowly lighter. Antennæ black, the first three joints yellow. Legs yellow. Length 2.5 mm.

A little narrower than *permutaria*, the head narrower, the punctures smaller, the ground-sculpture very feeble. Thorax shorter, more transverse, the sides more evenly rounded, elytra with less fine and closer puncturation. Antennæ with the 5th joint stout, a little longer than broad, the penultimate slightly transverse. Thorax nearly one-half broader than long, the sides evenly rounded, with dorsal row of four small punctures, the pre-basal the largest, the basal small, externally with one or two others, ground-sculpture absent. Elytra

about a third longer than the thorax, with uniform, rather close, moderately fine, simple puncturation. Abdomen very finely and sparingly punctured, coriaceous, along the posterior margins of the segments with a row of very fine granules.

♂: 8th dorsal segment on each side with a stout incurved cultriform process, the margin between rather narrow, gently rounded and tumid.

Almora : Kali Valley, alt. 9000 feet.

1514. *Gyrophæna* (s. str.) *indigena*, sp. n.

Shining; head black, thorax and abdomen reddish, the 5th and 6th segments blackish; elytra brownish-yellow, blackish towards the postero-external angles. Antennæ reddish-yellow, the first three joints yellow. Legs yellow. Length 2 mm.

In build similar to *permutaria*, but smaller and more brightly coloured, antennæ shorter, the 5th and 6th joints a little shorter, the penultimate as long as broad. Head less distinctly coriaceous, similarly punctured. Thorax with sculpture similar to that of *permutaria* and without ground-sculpture. Elytra more finely and more sparingly punctured, with less distinct ground-sculpture; slightly raised along the suture. Abdomen scarcely perceptibly coriaceous, along the posterior margins of the segments with a row of very fine asperate punctures.

♂: 7th dorsal segment with a small tubercle at the posterior margin; 8th with slender cultriform process on each side, the margin between truncate.

Kashmir : Gulmarg, 6. vii. 31.

1515. *Gyrophæna* (s. str.) *bicornuta*, sp. n.

Very similar to *permutaria*, but the head has more numerous and coarser punctures and the elytra are less finely and more deeply punctured. The antennæ are entirely yellow. The ♂ characters only differ from those of *permutaria* in the longer and more slender cultriform processes of the 8th dorsal segment.

Simla Hills : Gahan, alt. 7000 feet.

1516. *Gyrophæna* (s. str.) *immatura*.

Gyrophæna immatura Kr.*, Arch. Naturg. xxv, 1859, p. 47.

Shining reddish-brown with slight greenish reflex, the elytra blackish postero-externally, the base of the abdomen (sometimes the whole) reddish-yellow. Antennæ with the first four joints yellow, the rest blackish. Legs yellow. Length 1.75–2 mm.

Head a little narrower than the thorax, with a few fine punctures at the sides and without ground-sculpture. Antennæ with the 5th to 7th joints about as long as broad, the 8th to 10th slightly transverse. Thorax formed as in *affinis*, on each side of the middle with a somewhat irregular row of four or five small punctures of which the pre-basal are the largest; ground-sculpture absent. Elytra nearly half as long again as the thorax, very finely and very sparingly punctured and without ground-sculpture. Abdomen very finely and very sparingly punctured.

♂: elytra sometimes with a small ridge adjacent to the suture; 3rd segment of abdomen occasionally with a minute tubercle at the middle of the posterior margin; 7th with a large tubercle at the posterior margin; 8th with a median tooth and a small spine on each side.

Ceylon.

1517. *Gyrophæna* (s. str.) *lacea*, sp. n.

Very shining; head black; thorax brown with the margins narrowly lighter; elytra lemon-yellow, the postero-external

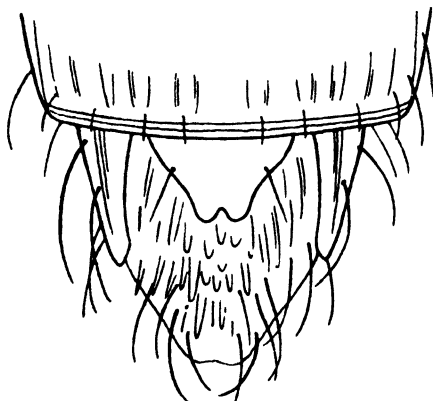


Fig. 14.—*Gyrophæna* (s. str.) *lacea*, ♂, apex of abdomen.

angles black; abdomen with the 1st visible segment yellowish-red, the following pitchy-black with the posterior margins narrowly reddish. Antennæ with the first three joints yellow, the following blackish. Legs yellow. Length 3 mm.

Very distinct by the highly polished surface, as if varnished, and the lemon-yellow elytra. Head rather broad, on each side with four umbilicate punctures; ground-sculpture absent. Antennæ with the 4th joint about as long as broad, 5th and 6th slightly longer than broad, the penultimate as

long as broad. Thorax formed as in *gentilis*, with dorsal row of four punctures, the pre-basal and apical ones larger than the others, the basal small, externally with two or three more ; ground-sculpture absent. Elytra broader and a third longer than the thorax, with two or three very fine punctures near the shoulders and a few others at the postero-external angles, elsewhere practically impunctate ; ground-sculpture absent. Abdomen very finely, moderately closely punctured on the first three visible segments, elsewhere practically impunctate, along the posterior margins of the 4th and 5th segments with a row of fine granules ; ground-sculpture absent.

♂ : 8th dorsal segment on each side with a straight cultriform process, in the middle with a lamella bifid at the apex.

Simla Hills ; Theog, Gahan, Matiana, alt. 7000–8000 feet.

1518. *Gyrophaena* (s. str.) *andrewesi*, sp. n.

Shining ; head black ; thorax pitchy-black, the extreme lateral and basal margins yellowish ; elytra reddish-yellow infusate postero-externally ; abdomen yellowish-red, the 4th and 5th visible segments infusate. Antennæ black, the first four joints yellow, the 11th reddish. Legs yellow. Length 2 mm.

Head rather broad, on each side with a few umbilicate punctures, feebly coriaceous. Antennæ rather long and stout, the 4th joint transverse, 5th longer than broad, 6th to 10th as long as broad. Thorax rather more than a third broader than long, the sides more rounded in front and straighter behind as in *gentilis*, with dorsal row of five small punctures, the pre-basal the largest, the basal the smallest, externally with three or four others ; ground-sculpture absent. Elytra a third longer and a little broader than the thorax, very finely, moderately closely punctured and without ground-sculpture. Abdomen with a row of fine granules along the posterior margins of the segments, practically impunctate and without ground-sculpture.

♂ : 7th dorsal segment with small flat tubercle at the middle of the posterior margin ; 8th with short cultriform process on each side, the margin between truncate.

Nilgiri Hills.

1519. *Gyrophaena* (s. str.) *sparsipennis*, sp. n.

Shining ; head dark brown ; thorax and abdomen yellowish-red, the 6th and 7th segments infusate ; elytra yellow, the postero-external angles blackish. Antennæ with the first three joints yellow, the following blackish. Legs yellow. Length 2.5 mm.

In build somewhat resembling *gentilis*. Head a good deal narrower than the thorax, on each side with five or six rather large umbilicate punctures, ground-sculpture scarcely visible. Antennæ slender, the 4th joint small and transverse, 5th much stouter, a little longer than broad, the 6th and following as long as broad. Thorax more than a third broader than long, the sides rounded in front, straighter behind, on each side of the middle with a row of four small punctures of which the pre-basal is the largest, towards the sides with two or three others; ground-sculpture absent. Elytra broader and a third longer than the thorax, very finely and sparingly punctured and without ground-sculpture, somewhat raised near the suture. Abdomen extremely finely sparingly punctured, the posterior margin of the segments with row of very fine granules, extremely finely coriaceous.

♂: 7th dorsal segment with a small tubercle; 8th with a cultriform process on each side, the margin between almost straight.

Ghum district: Rongdong Valley, 5. vi. 31; Tiger Hill.

1520. *Gyrophæna* (s. str.) *dispersa*, sp. n.

Very near *sparsipennis*, similar in build and colour but larger (3 mm.), the head with only three punctures on each side, the antennæ longer and more slender, the 4th joint fully as long as broad, the penultimate a little longer than broad, the 11th much longer than in *sparsipennis*, as long as the two preceding together, the thorax with the dorsal punctures larger, the elytra yet more sparingly punctured.

♂: unknown.

Ghum district, Tiger Hill, alt. 8000–10,000 feet.

1521. *Gyrophæna* (s. str.) *montivagans*, sp. n.

Shining; head dark red, blackish at the sides; thorax yellowish-red; elytra reddish-yellow, infusate towards the postero-external angles; abdomen reddish-brown, blackish before the apex. Antennæ reddish-brown, the first three joints yellow. Legs yellow. Length 2.75 mm.

In build somewhat similar to *bihamata*. Head rather broad, with several large umbilicate punctures on each side, very finely coriaceous. Antennæ with the 4th joint small, the 5th to 10th about as broad as long. Thorax formed as in *bihamata*, with a row of three small punctures on each side of the middle, the pre-basal pair the largest, the basal pair small, externally with one or two others, very feebly coriaceous. Elytra broader and about a third longer than the thorax, finely and sparingly punctured, more closely towards

the postero-external angles ; ground-sculpture absent. Abdomen coriaceous, extremely finely and sparingly punctured.

♂ : 7th dorsal segment with ten to twelve small elongate tubercles along the posterior margin, the four median ones

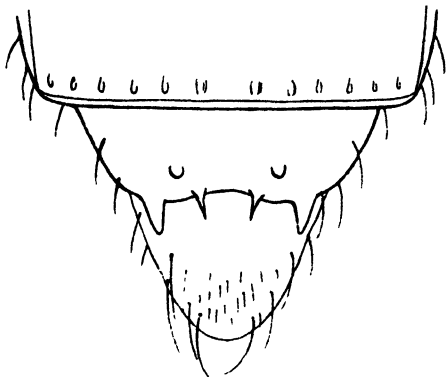


Fig. 15.—*Gyrophæna* (s. str.) *montivagans*, ♂, apex of abdomen.

the largest ; 8th with a short cultriform process on each side, in the middle with two small teeth.

Simla Hills : Gahan, Theog, alt. 7000–8000 feet.

1522. ***Gyrophæna* (s. str.) *sikkimensis*, sp. n.**

Shining, black, the elytra yellowish-brown, darker at the postero-external angles, abdomen sometimes pitchy at the base. Antennæ and legs clear yellow. Length 3 mm.

Head broad, with a few small umbilicate punctures at the

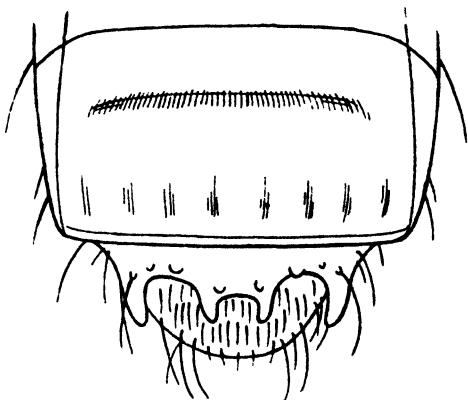


Fig. 16.—*Gyrophæna* (s. str.) *sikkimensis*, ♂, apex of abdomen.

sides, very finely coriaceous. Antennæ with the 5th joint much stouter than the 4th, a little longer than broad, the penultimate scarcely transverse. Thorax nearly one-half broader than long, considerably widened a little before the middle, the sides rounded in front, almost straightly and strongly retracted behind, dorsal row with moderate pre-basal puncture and two or three others extremely fine, the basal pair very small, towards the sides with two or three others equally fine; ground-sculpture as on head. Elytra about a third longer than the thorax, extremely finely, rather sparingly punctured, finely coriaceous. Abdomen at the posterior margin of the segments with a row of extremely fine granules, finely coriaceous.

♂: 8th dorsal segment with a short, stout cultriform process on each side, in the middle with a pair of short, stout spines each a little thickened towards the apex and a little nearer to one another than to the lateral processes, in some examples with four slender spines between the lateral processes, in others with the two median spines bifid at the apex, 6th ventral segment produced.

Ghum district: Mangpu. Simla Hills: Gahan.

1523. *Gyrophæna* (s. str.) *quadrispinosa*, sp. n.

Shining; head black; thorax reddish-brown; elytra brownish-yellow, darker postero-externally; abdomen reddish, the 6th and 7th segments infusate. Antennæ with the first three joints yellow, the rest slightly infusate. Legs yellow. Length 2 mm.

Head rather broad, on each side with three larger and two smaller umbilicate punctures; ground-sculpture absent. Antennæ with the 4th to 10th joints distinctly transverse. Thorax about a half broader than long, the sides straighter and more retracted behind, dorsal row of three or four small punctures, of which the pre-basal and apical are the largest, between the pre-basal punctures and the base with a transverse row of about five very small, closely-placed punctures, towards the sides with two or three others; ground-sculpture absent. Elytra broader and about a half longer than the thorax, very finely, moderately closely but somewhat irregularly punctured. Abdomen finely coriaceous, almost impunctate.

♂: 7th dorsal segment with four elongate tubercles at the posterior margin; 8th with a slender inwardly directed cultriform process on each side, between them with two shorter and more slender spines.

Simla Hills: Matiana, Theog, Fagu, alt. 7000–8000 feet.

1524. Gyrophæna (s. str.) kotgarhensis, sp. n.

Shining; head black, thorax, elytra and abdomen pitchy-brown, the elytra and abdomen obscurely lighter at base. Antennæ and legs reddish-yellow. Length 2 mm.

Near *quadrispinosa* but of darker colour, the antennæ clear reddish-yellow, the head with a fine ground-sculpture, thorax with the sides evenly rounded, the elytra more uniformly punctured and with a very fine ground-sculpture. Head rather broad, at the sides with five or six small umbilicate punctures, very finely coriaceous. Antennæ with the 4th to 10th joints transverse. Thorax more than a half broader than long, the sides a little straighter behind, as in *poweri*, dorsal row of four or five small punctures, of which the prebasal are the largest, and with two minute basal punctures between these and the basal margin, externally with two or three others; ground-sculpture absent. Elytra broader and one-half longer than the thorax, finely, moderately closely and uniformly punctured, ground-sculpture very fine. Abdomen extremely finely punctured, at the posterior margins of the segments with transverse row of very fine granules; scarcely coriaceous.

♂: unknown.

Simla Hills: Kotgarh.

1525. Gyrophæna (s. str.) xanthocera, sp. n.

Shining; head black; thorax brown; elytra brownish-yellow, the postero-external region infuscate; abdomen reddish, infuscate before apex. Antennæ and legs reddish-yellow. Length 2 mm.

In colour very similar to *kotgarhensis*, but the head is without trace of ground-sculpture, the antennæ a little longer, the penultimate joints as long as broad, thorax formed as in *gentilis*, the sculpture as in *kotgarhensis*; the elytra are lighter in colour, less uniformly punctured than in that species, being more sparing towards the base and suture; ground-sculpture feeble. Abdomen as in *kotgarhensis*.

♂: unknown.

Ghum district.

1526. Gyrophæna (s. str.) rubeola, sp. n.

Shining; head red; thorax yellowish-red; elytra brownish-yellow, darker postero-externally; abdomen yellowish-red, darker before the apex. Antennæ reddish-brown, the first three joints yellow. Legs yellow. Length 1.75 mm.

Head rather broad, on each side with six or seven umbilicate punctures, the front feebly coriaceous, posteriorly without

ground-sculpture. Antennæ with the 4th joint small, transverse, 5th to 10th about as long as broad. Thorax a third broader than long, the sides straighter behind, gently rounded in front, with dorsal row of four small punctures, the pre-basal pair the largest, between these and the base with a transverse row of four or five more, externally with two or three others; ground-sculpture feeble. Elytra a little longer and broader than the thorax, very finely, moderately closely punctured, some of the punctures at the base rather larger than the rest; ground-sculpture absent. Abdomen extremely finely, moderately closely punctured and without ground-sculpture.

♂: 7th dorsal segment with a row of six small elongate tubercles along the posterior margin; 8th on each side with a short cultriform process, the margin between with two small teeth.

Simla Hills: Fagu, alt. 8000 feet.

1527. *Gyrophæna* (s. str.) *fletcheri*, sp. n.

Shining; head black, the rest pitchy-black. Antennæ and legs yellow. Length 1.75 mm.

Head with a few very fine umbilicate punctures at the sides, finely coriaceous. Antennæ with the 4th to 10th joints

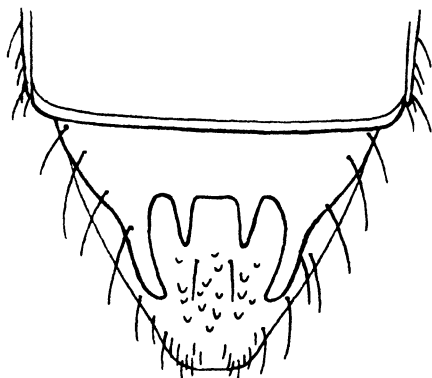


Fig. 17.—*Gyrophæna* (s. str.) *fletcheri*, ♂, apex of abdomen.

transverse, the penultimate twice as broad as long. Thorax nearly a half broader than long, the sides more retracted and straighter behind, on each side of the middle with a row of four or five very small punctures, of which the pre-basal pair is the largest, towards the sides with three or four others; the ground-sculpture as on the head. Elytra about a half longer than the thorax, extremely finely moderately closely

punctured, finely coriaceous. Abdomen extremely finely and moderately closely punctured, finely coriaceous.

♂: 8th dorsal segment with a slender inwardly directed cultriform process on each side, between them with two much shorter and more slender spines, all about equidistant.

Kashmir: Gulmarg, vi., vii. 31.

1528. *Gyrophæna* (s. str.) *furcata*.

Gyrophæna furcata Motsch., Bull. Mosc. xxxi, 1858, iii, p. 228.

Gyrophæna indica Motsch., id., p. 230.

Gyrophæna humeralis Kr.*, Arch. Naturg. xxv, 1859, p. 46.

Shining black, the elytra with the humeral angles reddish-yellow, abdomen with the first three or four segments obscurely reddish. Antennæ black, the first four joints yellow. Legs yellow. Length 2 mm.

Var. 1. Abdomen entirely black.

Var. 2. Abdomen and elytra black.

Head narrower than the thorax; on each side with three or four umbilicate punctures, ground-sculpture absent. Antennæ with the 4th joint small, 5th to 10th slightly transverse. Thorax almost twice as broad as long, the sides evenly rounded, scarcely more retracted in front than behind, on each side of the middle with a row of three small punctures, of which the pre-basal pair is the largest, the basal absent, at the sides with one or two others. Elytra a third longer and a little broader than the thorax, in the ♂ with rather large, close granules, especially along the sutural margin, which is somewhat elevated, postero-externally with a few finer granules, in the ♀ practically impunctate; ground-sculpture absent. Abdomen extremely finely and very sparingly punctured, along the posterior margins of the segments with a row of fine granules; ground-sculpture absent.

♂: 7th dorsal segment with a small tubercle at the middle of the posterior margin; 8th on each side with a small blunt tooth, in the middle with a small rounded lobe, not produced beyond the lateral teeth, and separated from them by a small arcuate emargination, at its base with a small tubercle.

"Ind. or." Ceylon.

1529. *Gyrophæna* (s. str.) *cicatricosa*.

Gyrophæna cicatricosa Motsch., Bull. Mosc. xxx, 1858, iii, p. 231.

Gyrophæna granulifera Kr.*, Arch. Naturg. xxv, 1859, p. 48.

Shining pitchy-black, the elytra brownish-yellow more or less blackish postero-externally, abdomen sometimes more or less obscurely reddish at base and apex. Antennæ with the first five joints yellow, the following infuscate. Legs yellow. Length 2 mm.

Build of *furcata*, but less robust, the antennæ lighter, with the penultimate joints distinctly transverse. Head with a few small punctures at the sides and an extremely fine wavy ground-sculpture. Thorax with dorsal row of three or four small punctures, the pre-basal pair scarcely larger than the others, the basal absent, externally with three or four fine punctures; ground-sculpture as on the head. Elytra in the ♂ with finer granules than in *furcata*, practically impunctate externally, ground-sculpture distinct, in the ♀ with a few very fine punctures. Abdomen extremely finely and extremely sparingly punctured, at the posterior margin of the segments with a row of fine granules, ground-sculpture fine.

♂: 7th dorsal segment with a transverse row of about six very small tubercles a little behind the middle; 8th with

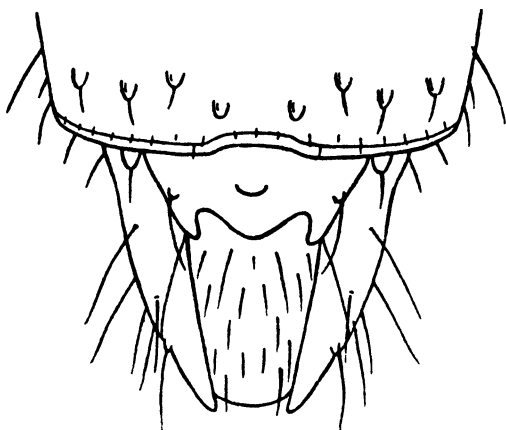


Fig. 18.—*Gyrophæna* (s. str.) *cicatricosa*, ♂, apex of abdomen.

a median boss and with the central lobe narrower, the emargination on each side deeper, the lateral teeth longer, more acute (but not extending beyond the level of the median lobe) than in *furcata*.

Ceylon. India: Dehra Dun, Madras; Nilambur. Also in Sumatra.

1530. *Gyrophæna* (s. str.) *subjecta*.

Aleochara subjecta Walk.*, Ann. & Mag. Nat. Hist. (3) iii, 1859, p. 52.

Shining black, the humeral angles scarcely lighter. Antennæ black, the first four joints yellow. Legs yellow. Length 2 mm.

Size and build of *furcata*, but with the head rather narrower, the granules of the elytra in the ♂ finer and almost entirely limited to the sutural region, the postero-external angles without sculpture; the 7th dorsal segment is without a tubercle and the central lobe of the 8th segment is narrower and produced beyond the level of the small lateral teeth, which are less developed than in *furcata*, and there is a small tubercle at the base of the lobe.

♀: unknown.

Ceylon.

1531. *Gyrophæna* (s. str.) *ceylonica*, sp. n.

Shining; head black; thorax dark brown; elytra yellowish-brown, darker at the postero-external angles; abdomen reddish-brown, the 4th visible segment darker. Antennæ black, the first four joints yellow. Legs yellow. Length 2 mm.

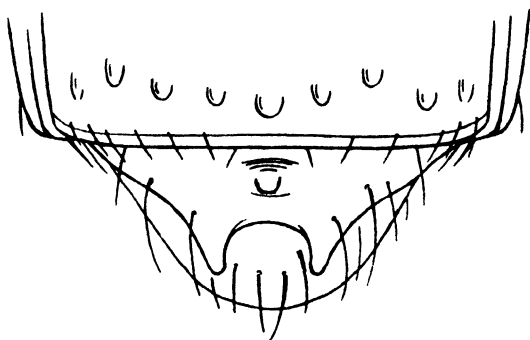


Fig. 19.—*Gyrophæna* (s. str.) *ceylonica*, ♂, apex of abdomen.

Differs from *furcata* in the colour, stouter antennæ, the presence of ground-sculpture on the head and thorax, and the ♂ characters. Head with four or five umbilicate punctures on each side, finely coriaceous. Antennæ stout, the 4th to 10th joints transverse. Thorax as in *furcata*, but with a fine transversely strigose ground-sculpture. Elytra broader and a third longer than the thorax, in the ♂ on the disc with rather large moderately close granules, towards the sides and base smooth; ground-sculpture absent. Abdomen much as in *furcata*, but with a fine but distinct ground-sculpture.

♂: 8th dorsal segment with a tubercle in the middle, on each side with a small sharp tooth, the border between feebly arcuately emarginate.

♀: unknown.

Ceylon. Unique. In the British Museum.

1532. *Gyrophæna mangalorensis*, sp. n.

Shining black, the humeral angles of the elytra and posterior margin of the 5th visible abdominal segment yellow, sometimes with 1st and 2nd segments obscurely reddish. Antennæ black, the first four or five joints yellow. Legs yellow. Length 2.2 mm.

In build and colour very similar to *furcata*, but the sculpture of the elytra is not granular in the ♂ and the abdominal characters in this sex are also different. Head narrower than the thorax, with only two or three umbilicate punctures on each side and without ground-sculpture. Antennæ rather slender, the 3rd joint nearly as long as the 2nd, 4th and 5th scarcely longer than broad, the penultimate about as long as broad or slightly transverse. Thorax about two-thirds broader than long, the sides evenly rounded, the disc on each side with a row of four small punctures, the pre-basal pair the largest, at the sides with one or two others; ground-sculpture absent. Elytra broader and about a third longer than the

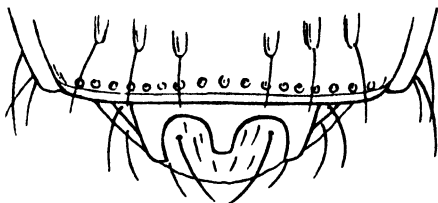


Fig. 20.—*Gyrophæna* (s. str.) *mangalorensis*, ♂, apex of abdomen.

thorax, with a few fine asperate punctures in both sexes and without ground-sculpture. Abdomen with small flat V-shaped tubercles rather closely placed, the 6th and 7th segments finely coriaceous also but with fewer granules.

♂: 8th dorsal segment on each side with a short cultriform process, in the middle with a stout blunt tooth as long as the lateral processes and separated from them by an arcuate emargination on each side. In one specimen the central tooth is absent, its place being taken by three small teeth.

Madras: S. Mangalore, 25. v. 30 (*J. C. M. Gardner*).

1533. *Gyrophæna* (s. str.) *trifida*.

Gyrophæna trifida Motsch.*, Étud. Ent. viii, 1859, p. 84.

Shining black, the elytra, base and apex of the abdomen reddish-yellow, the former extensively blackish postero-externally. Antennæ black, the first four joints reddish-yellow. Legs yellow. Length 1.75–2 mm.

In size, build, and colour very similar to *furcata*, but with

the penultimate joints of the antennæ distinctly transverse, the elytra not granular but very sparingly, finely, asperately punctured in the ♂, in other respects like *furcata*.

♂ : 7th dorsal segment at the middle of the posterior margin with a small bifid tubercle ; 8th with the posterior margin very feebly bisinuate, so that the central lobe seen in *furcata* is but little developed and the lateral teeth are scarcely visible.

♀ : unknown.

The trifold processes described by Motschoulsky belong to the ædeagus, which is protruded in one of the types.

Ceylon.

1534. *Gyrophæna* (s. str.) *nlgra*.

Gyrophæna nigra Motsch.*, Étud. Ent. viii, 1859, p. 49.

Shining black, the elytra scarcely lighter at the shoulders. Antennæ black, the first four joints yellow. Legs yellow. Length 1.75 mm.

In size and build very similar to *furcata*, and especially like the entirely black form of that species ; the sculpture of the elytra is, however, quite different in the ♂. Head a little narrower than the thorax, with a few very fine punctures at the sides, ground-sculpture absent. Antennæ with the penultimate joints transverse. Thorax almost twice as broad as long, on each side of the middle with a row of three fine punctures, of which the basal pair is the largest, externally with two or three others. Elytra in ♂ with a few very fine asperate punctures. Abdomen very finely and very sparingly punctured.

♂ : 8th dorsal segment with small median tubercle, on each side with a small acute tooth, in the middle with small rounded lobe not produced beyond the level of the teeth and separated from them by an acute excision.

♀ : unknown.

“ Ind. or.” Ceylon.

1535. *Gyrophæna* (s. str.) *rigida*.

Gyrophæna rigida Motsch.*, Bull. Mosc. xxxi, 1858, iii, p. 230.

Shining ; head and abdomen black, thorax dark brown, elytra brownish-yellow, the postero-external angles blackish. Antennæ reddish-yellow, infusate from the 5th joint. Legs yellow. Length 1.2 mm.

Smaller than *furcata* and *cicatricosa*, with broader head and narrower thorax than in those species. Head almost as wide as the thorax, at the sides with a few small punctures, ground-sculpture fine and wavy. Antennæ with the penultimate joints less transverse than in *cicatricosa*. Thorax about

a half broader than long, the sides evenly rounded, with a row of three small punctures on each side of the middle and two or three others externally, the ground-sculpture as on the head. Elytra with a few extremely fine, asperate punctures in both sexes. Abdomen very finely and very sparingly punctured.

♂: 7th dorsal segment with three or four small elongate tubercles; 8th with small rounded central lobe, externally with a small tooth separated from the lobe by a small arcuate emargination and not extending beyond it.

“Ind. or.”

1536. *Gyrophæna* (s. str.) *ferruginea*, sp. n.

Shining, dark ferruginous-red, the abdomen a little lighter. Antennæ black, the first three joints yellow. Legs yellow. Length 1.2 mm.

Closely allied to *minima*, but of darker colour, the head broader, the antennæ much longer. Head rather broad, on each side with about seven moderate umbilicate punctures, the ground-sculpture finer than in *minima*. Antennæ long and slender, the 3rd joint shorter than the 2nd, 4th transverse, 5th and following as long as broad, not increasing in width, the 11th as long as the two preceding together. Thorax strongly transverse, with evenly rounded sides, on each side of the middle with a dorsal row of five punctures, the pre-basal pair the largest, the basal small, externally with two or three others and a larger one near the posterior angle; ground-sculpture as on the head. Elytra a little longer and broader than the thorax, very finely, rather sparingly punctured especially internally, and with a fine retiform ground-sculpture. Abdomen almost impunctate, the 6th and 7th segments with a row of fine granules along the posterior margins, feebly coriaceous.

♂: unknown.

Ghum district; Mangpu, v. 31.

1537. *Gyrophæna* (s. str.) *tamula*, sp. n.

Shining; head black; thorax brown; elytra brownish-yellow, a little infusate at the postero-external angles; abdomen reddish-yellow, infusate before the apex. Antennæ yellow, a little infusate from the 5th joint. Legs yellow. Length 1.8 mm.

Head with three or four fine umbilicate punctures on each side, with fine but distinct ground-sculpture. Antennæ with the 4th to 10th joints strongly transverse. Thorax nearly twice as broad as long, the sides evenly rounded, with dorsal row of three or four small punctures, the pre-basal a little

larger, the basal absent, externally with four or five very small ones ; ground-sculpture as on the head. Elytra a little longer and broader than the thorax, very finely, asperately, sparingly punctured and with distinct ground-sculpture. Abdomen very finely punctured, much more sparingly behind,

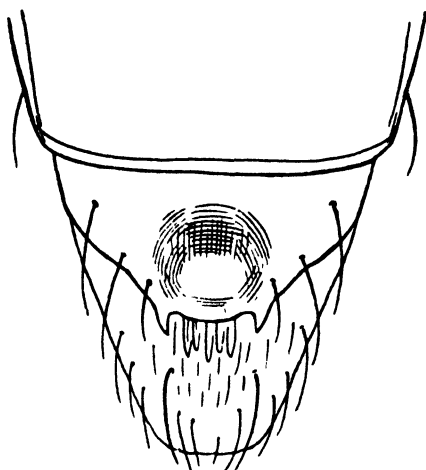


Fig. 21.—*Gyrophæna* (s. str.) *tamula*, ♂, apex of abdomen.

very finely coriaceous, with fine granules along the posterior margins of the segments.

♂ : 8th dorsal segment with median tubercle near the posterior margin, on each side with a little tooth, the margin between truncate.

Madras : Nilambur.

1538. *Gyrophæna* (s. str.) *chatterjeei*, sp. n.

Shining, pale castaneous, the elytra brownish-yellow. Antennæ with the first three joints yellow, the following reddish-yellow. Legs yellow. Length 2 mm.

Very near *tamula*, of similar build, but with the head, thorax, and elytra quite devoid of ground-sculpture, the dorsal row of thoracic punctures three in number, the pre-basal ones larger, the basal absent as in *tamula*, but externally practically impunctate, the elytra yet more finely and more sparingly punctured ; the abdomen scarcely differs from that of *tamula*.

♂ : 7th dorsal segment on each side of the middle near the posterior margin with a small tubercle ; 8th with a short cultriform process on each side, the border between truncate.

Madras : Nilambur.

1539. **Gyrophæna** (s. str.) **bisinuata**, sp. n.

Very near *tamula*, the fore-parts pale castaneous, the abdomen reddish-yellow, darker before the apex, but a little smaller (1.4 mm.) and less robust, the antennæ more slender, the penultimate joints less transverse and blackish from the 5th joint, the punctures of the head smaller and more numerous (six or seven). The thorax has three small punctures in the dorsal row, the pre-basal the largest, the basal absent, externally almost impunctate; the puncturation of the elytra is not asperate but equally scanty, the ground-sculpture of the fore-parts is distinct but not so strong as in *tamula*; the abdomen scarcely differs from that of *tamula*.

♂: 7th dorsal segment with two little tubercles near the posterior border; 8th bisinuate, the central lobe broad, not prominent, the lateral teeth small.

Dehra Dun. Madras: Nilambur.

1540. **Gyrophæna** (s. str.) **purpurascens**, sp. n.

Shining, the fore-parts with strong purplish reflex; head black, thorax and elytra pitchy-black; abdomen reddish-yellow, the 5th and 6th segments black. Antennæ black, the first three joints yellow. Legs yellow. Length 1.3 mm.

Near *bisinuata*, but of darker colour, more robust, the head broader and the fore-parts with strong purple reflex. Head broad, on each side with six or seven small umbilicate punctures, finely coriaceous. Antennæ with the 4th to 10th joints distinctly transverse, the 5th to 10th scarcely differing from each other. Thorax strongly transverse, with evenly rounded sides as in *minima*, with dorsal row of four or five punctures, of which the pre-basal and apical are the largest, the basal very small, externally with one or two others, the ground-sculpture as on the head. Elytra a little longer and broader than the thorax, very finely, sparingly punctured and with distinct ground-sculpture. Abdomen parallel, extremely finely and very sparingly punctured, at the posterior margins of the 6th and 7th segments with a row of small granules, finely coriaceous.

♂: unknown.

Madras: Nilambur.

1541. **Gyrophæna** (s. str.) **minuta**, sp. n.

Shining; head black, thorax pitchy-black or dark brown; elytra pitchy-black, obscurely reddish at the shoulders; abdomen pitchy-black, reddish at base and apex. Antennæ reddish-yellow, the last two joints slightly infusate. Legs reddish-yellow. Length scarcely 1 mm.

Head broad, almost as wide as the thorax, finely and irregularly punctured at the sides; ground-sculpture absent except at the base. Antennæ with the 3rd joint much shorter than the 2nd, 4th small and transverse, 5th to 10th strongly transverse. Thorax short, twice as broad as long, the sides evenly rounded, on each side with a row of three fine equal punctures, nearly impunctate otherwise; ground-sculpture

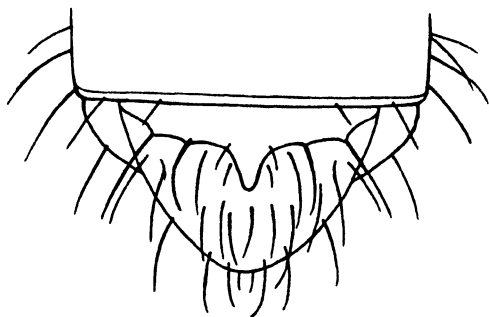


Fig. 22.—*Gyrophæna* (s. str.) *minuta*, ♂, apex of abdomen.

absent. Elytra a little longer than the thorax, very finely, rather closely, asperately punctured, finely coriaceous. Abdomen extremely finely, very sparingly punctured, the sides and apex with short, stiff black setæ, distinctly pubescent.

♂: elytra strongly carinate at the postero-external angle; 8th abdominal segment narrowed to a strong median spine.

Siwaliks: Nakraunda. Ghum district. In *Polyporus*.

SECTION II.

1542. *Gyrophæna* (s. str.) *gardneri*, sp. n.

Shining; head and abdomen black, thorax reddish-brown, elytra brownish-yellow, the postero-external region blackish. Antennæ blackish, the first three joints yellow. Legs yellow. Length 2.75 mm.

Resembling *gentilis* Er. in build, but larger. Head on each side with close, moderately coarse umbilicate punctures; ground-sculpture absent. Antennæ with the 3rd joint as long as the 2nd, 4th small, quadrate, 5th much broader, longer than broad, the following a little longer than broad. Thorax about one-half broader than long, the sides rounded in front, straighter behind, on each side with a row of six punctures, the pre-basal the largest, the basal small, between them and the margin with a transverse row of four or five very small closely placed punctures, the three between the

pre-basal and apical, small, towards the sides with two or three others; ground-sculpture absent. Elytra broader and about a fourth longer than the thorax, rather finely, deeply closely punctured and without ground-sculpture. Abdomen extremely finely and extremely sparingly punctured, finely coriaceous.

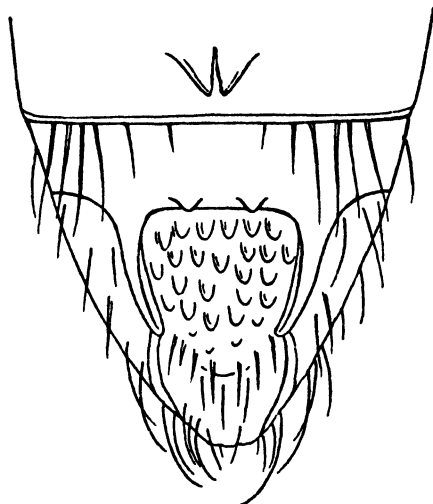


Fig. 23.—*Gyrophæna* (s. str.) *gardneri*, ♂, apex of abdomen.

♂: 7th dorsal segment near the posterior margin with a large bifid tubercle; 8th on each side with long, stout cultriform process, the margin between broad and slightly concave and with two little tubercles on it.

Darjeeling: Lepchajagat, alt. 7000 feet (*J. C. M. Gardner*).

1543. *Gyrophæna* (s. str.) *sexecarinata*, sp. n.

Shining; head black; thorax brown, the lateral margins lighter; elytra brownish-yellow, the postero-external angles blackish; abdomen pitchy-black. Antennæ with the first three joints yellow, the following scarcely infusate. Legs yellow. Length 2.2 mm.

In build very similar to *gentilis*. Head on each side with nine or ten umbilicate punctures varying in size, ground-sculpture extremely indistinct. Antennæ with small 4th joint, the 5th slightly longer than broad, the 6th to 10th as long as broad. Thorax one and a half times broader than long, the sides feebly rounded, equally retracted in front and behind, the dorsal row consisting of a pre-basal and apical puncture of about equal size, between these with four or five smaller

and somewhat irregular punctures, between the pre-basal punctures and the posterior margin with a transverse row of minute punctures, externally with two or three others; ground-sculpture scarcely visible. Elytra broader and about a third longer than the thorax, finely and moderately closely punctured; ground-sculpture absent. Abdomen extremely finely and sparingly punctured, strongly coriaceous, along the posterior margins of the segments with a few small granules.

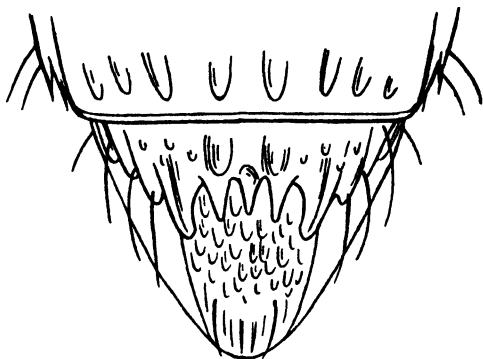


Fig. 24.—*Gyrophæna* (s. str.) *sexcarinata*, ♂, apex of abdomen.

♂: 7th dorsal segment with a row of six keels along the posterior margin, the four central ones the largest; 8th with two keels at the posterior margin, on each side with a short stout cultriform process, the border between with three shorter and more slender spines.

Ghum, v., vi. 31.

1544. *Gyrophæna* (s. str.) *tenulpunctata*, sp. n.

In colour and build scarcely differing from *sexcarinata*, but smaller (2 mm.) and less robust, the ground-sculpture on the head and thorax feeble but more evident than in *sexcarinata*, the antennæ shorter, the penultimate joints distinctly transverse, the elytra much more finely punctured, the abdomen not so strongly coriaceous.

♂: unknown.

Ghum district: Tiger Hill, alt. 8500–10,000 feet.

1545. *Gyrophæna* (s. str.) *limbata*, sp. n.

Shining; head reddish, lighter in front; thorax light castaneous, the margins narrowly lighter; elytra brown, reddish at the shoulders; abdomen yellowish-red, darker before the apex. Antennæ with the first three joints yellow,

the following slightly infusate. Legs yellow. Length 2.2 mm.

Head on each side with six or seven moderate umbilicate punctures, distinctly coriaceous. Antennæ with 4th to 10th joints distinctly transverse, gradually increasing in width, the penultimate about twice as broad as long. Thorax fully a half broader than long, the sides evenly rounded, the disc on each side with a large pre-basal puncture and a smaller one at the anterior border, between these with four or five smaller and irregularly placed ones, between the pre-basal and the posterior margin with three or four small irregularly placed ones also, towards the sides with three or four others; ground-sculpture as on the head. Elytra broader and a half longer than the thorax, finely and rather closely punctured, without ground-sculpture. Abdomen almost impunctate, distinctly coriaceous.

♂: 7th dorsal segment with a row of four small tubercles near the posterior margin; 8th with straight cultriform process on each side, the margin between feebly crenulate.

Simla Hills: Narkanda, alt. 9200 feet.

1546. *Gyrophæna* (s. str.) *pallida*, sp. n.

Shining; head black; thorax yellowish-red; elytra yellow, scarcely infusate at the postero-external angles;

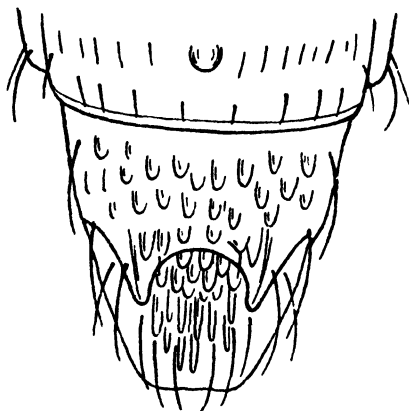


Fig. 25.—*Gyrophæna* (s. str.) *pallida*, ♂, apex of abdomen.

abdomen yellowish-red, the 4th and 5th (visible) segments blackish. Antennæ and legs yellow. Length 2 mm.

Head with five or six moderate umbilicate punctures on each side, feebly coriaceous. Antennæ with the 4th joint small, transverse, the 5th to 10th as broad as long, scarcely

differing amongst themselves. Thorax a half broader than long, the sides retracted and a little straighter behind than in front, with dorsal row of six or seven punctures, the pre-basal the largest, the rest (including the apical) small; externally with one or two others; ground-sculpture absent. Elytra broader and about a half longer than the thorax, very finely moderately closely punctured; ground-sculpture absent. Abdomen extremely finely, very sparingly punctured, finely coriaceous.

♂: 7th dorsal segment with small tubercle at the middle before the posterior border; 8th broadly arcuately emarginate, the lateral angles dentiform.

Simla Hills: Kotgarh, alt. 7000 feet.

1547. *Gyrophæna* (s. str.) *fissidens*, sp. n.

Shining, reddish-brown, the elytra brownish-yellow, infusate postero-externally, abdomen infusate before the apex. Antennæ with the first three joints yellow, the following infusate. Legs yellow. Length 1.75 mm.

Head with five or six rather large umbilicate punctures on each side, distinctly coriaceous. Antennæ with the 4th



Fig. 26.—*Gyrophæna* (s. str.) *fissidens*, ♂, apex of abdomen.

joint strongly, the 5th to 10th slightly transverse. Thorax one-half broader than long, the sides feebly rounded, slightly retracted behind, the disc on each side with large pre-basal and small apical puncture, between these with a series of three others, between each pre-basal and the margin with a group of four minute punctures, externally with three or four others; ground-sculpture as on head. Elytra broader and about a half longer than the thorax, very finely, rather closely punctured, finely coriaceous. Abdomen extremely finely punctured, coriaceous, the 5th and 6th segments at the posterior margins with a row of granules.

♂: 7th dorsal segment with a row of six small elongate tubercles along the posterior margin; 8th with a slender,

inwardly-directed cultriform process on each side, in the middle with a bifid process.

♀ : 7th dorsal segment with four small keels, 8th with the posterior margin rounded.

Simla Hills : Theog, alt. 7600 feet.

SECTION III.

1548. *Gyrophæna* (s. str.) *seriata*, sp. n.

Shining, reddish-brown, the head lighter in front, the margins of the thorax narrowly yellowish, the elytra brownish-yellow, infusate at the postero-external angles, abdomen darker before the apex. Antennæ with the 1st and 5th to 11th joints infusate, the 2nd to 4th yellow. Legs yellow. Length 2.5 mm.

Build of *minima*. Head with seven or eight moderate umbilicate punctures on each side, very finely coriaceous. Antennæ rather stout, the 5th to 10th joints strongly transverse. Thorax nearly twice as broad as long, the sides evenly rounded, the disc on each side of the middle with a row of punctures situated in a slight sulcus, a large pre-basal and six or seven smaller ones irregularly placed, between the pre-basal punctures and the posterior border with a transverse sulcus in which a row of seven or eight small punctures is situated ; the sides with three or four others ; finely coriaceous. Elytra broader and about a half longer than the thorax, finely and very sparingly punctured in the sutural area, rather coarsely and closely punctured elsewhere, broadly impressed from the shoulder towards the suture behind, so that the sutural and postero-external region appears somewhat raised ; ground-sculpture absent. Abdomen scarcely punctured, strongly coriaceous, the posterior margins of the segments with a few fine granules.

♂ : 8th dorsal segment with a pair of small tubercles, the posterior margin on each side with a short cultriform process, the margin between with three fine short spines.

Simla Hills : Matiana, Theog, alt. 7600-7900 feet.

1549. *Gyrophæna* (s. str.) *sexspinosa*, sp. n.

Shining ; head dark reddish-brown, thorax and abdomen lighter, elytra brownish-yellow, infusate towards the postero-external angles. Antennæ reddish-yellow, with the 1st joint infusate. Legs reddish-yellow. Length 2 mm.

Head nearly as broad as the thorax, with eight or nine moderate punctures on each side, finely but distinctly coriaceous. Antennæ with the 4th to 10th joints moderately transverse.

Thorax one-half broader than long, the sides gently rounded in front, straighter behind, lightly sulcate on each side of the middle, each sulcus with five or six punctures, of which the pre-basal and apical are largest, between the pre-basal and the margin with two minute ones, externally with two or three others, ground-sculpture as on the head. Elytra one-half longer than the thorax, finely, moderately closely punctured externally, more sparingly towards the base and scutellary



Fig. 27.—(*Gyrophæna* (s. str.) *sexspinosus*, ♂, apex of abdomen.

region, finely coriaceous. Abdomen extremely finely punctured, very finely coriaceous.

♂: 7th dorsal segment at the posterior margin with a transverse row of six little tubercles; 8th with slender cultriform process on each side, in the middle with a pair of slender spines (extending almost as far back as the lateral processes), between these and the lateral process with a slender, much shorter spine.

Ghum district, v., vi. 31.

1550. *Gyrophæna* (s. str.) *rufobrunnea*, sp. n.

Shining, light reddish-brown, the abdomen infusate before the apex, the elytra brownish-yellow, scarcely infusate at the postero-external angles. Antennæ and legs yellow. Length 1.5 mm.

Head very broad, nearly as broad as the thorax, on each side with eight or nine fine umbilicate punctures, finely coriaceous. Antennæ with the 4th to 10th joints transverse, the penultimate about one-half broader than long. Thorax about a half broader than long, the sides gently rounded in front, straighter and more retracted behind, on each side of the middle with seven or eight small punctures situated in a slight sulcus,

the pre-basal puncture a little larger than the others, between each of these and the basal margin with another very small one, towards the sides with one or two others; ground-sculpture as on the head. Elytra a little longer and broader than the thorax, finely and moderately closely punctured except at the base and shoulders, where the puncturation is much finer and very scanty; ground-sculpture distinct. Abdomen extremely finely and very sparingly punctured, finely coriaceous.

♂: 7th dorsal segment with a row of six small tubercles along the posterior margin, of which the four central ones are

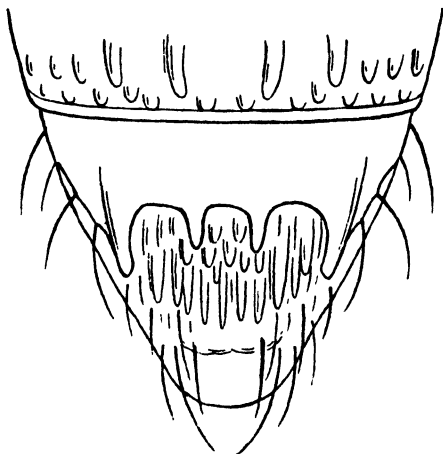


Fig. 28.—*Gyrophæna* (s. str.) *rufobrunnea*, ♂, apex of abdomen.

the largest; 8th with a slender cultriform process on each side, in the middle with a pair of shorter, more slender spines, sometimes with very rudimentary tooth between the spines and the lateral process.

Simla Hills: Theog, alt. 7600 feet.

1551. *Gyrophæna* (s. str.) *suspecta*, sp. n.

Shining; head black; thorax and first three abdominal segments reddish-brown, the following black; elytra yellowish-brown, extensively infuscate postero-externally. Antennæ with 1st joint brownish-yellow, 2nd and 3rd yellow, 4th and following blackish. Legs reddish-yellow. Length 2.5 mm.

In size, build, and colour very similar to *sexcarinata*, but with the antennæ darker and the penultimate joints transverse, the punctures of the dorsal row of the thorax more numerous and situated in a slight sulcus, the ground-sculpture distinct,

the elytra much less finely and more closely punctured. Head rather broad, on each side with seven or eight moderate umbilicate punctures, finely coriaceous except at the base. Antennæ with the 4th joint small, the 5th to 10th slightly transverse, not increasing in width. Thorax formed as in *gentilis*, one and a half times broader than long, with a larger pre-basal and nine or ten smaller, more or less paired punctures situated in a sulcus, between the pre-basal punctures and the posterior margin with a few small irregular punctures, towards the side margins with two larger ones; ground-sculpture distinct. Elytra a little longer and broader than the thorax,

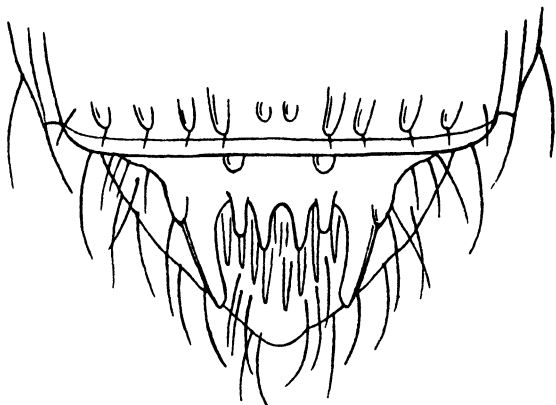


Fig. 29.—*Gyrophæna* (s. str.) *suspecta*, ♂, apex of abdomen.

moderately finely, rather closely and deeply punctured; ground-sculpture absent. Abdomen strongly coriaceous, the posterior margins of the 5th, 6th, and 7th segments with four to six small granules.

♂: 7th dorsal segment with four little keels near the posterior margin, the central pair larger: 8th with slender cultriform process on each side between them with four shorter and more slender spines: near the posterior margin with two tubercles.

Ghum district: Tiger Hill, alt. 8500–10,000 feet.

1552. *Gyrophæna* (s. str.) *kashmirensis*.

Gyrophæna kashmirensis Bernh., Kol. Rundsch. x, 1922, p. 127.

Almost the same as *gentilis* Er. in build, size, and colour, but at once distinguished by the puncturation of the elytra, which is three times stronger and much more sparing. The upper surface, especially of the thorax, is more convex, the head without longitudinal impressions, the puncturation more

sparing. The antennæ are entirely yellow, the penultimate joints strongly transverse. Thorax reddish-yellow, the puncturation more sparing. Elytra shorter than in *gentilis* Er., coarsely and sparingly punctured, the scutellary region smooth. Abdomen extremely finely and rather sparingly longitudinally striate, yet more sparingly behind. Length 2-2.5 mm.

♂: 3rd dorsal segment at the middle of the posterior margin with a strong tubercle, the 7th in front of the posterior margin with a row of granules, the 8th in the middle of the posterior margin with a strong tubercle and a tooth on each side.

Kashmir: Uri (*Rost*) (ex *Bernhauer*).

1553. **Gyrophæna** (s. str.) **soror**.

Gyrophæna soror Bernh., Kol. Rundsch. x, 1922, p. 127.

Smaller and more convex than the preceding (*kashmirensis*), in association with which it was found, the antennæ infuscate towards the apex, the puncturation of the fore-parts much closer, the abdomen quite smooth. Head strongly transverse, near the impunctate median area on each side coarsely and rather closely punctured. Antennæ strongly thickened towards the apex, the penultimate joints strongly transverse. Thorax closely punctured in the broad impressed dorsal rows, at the sides with numerous unequal punctures. Elytra coarsely and closely almost uniformly punctured. Abdomen without visible puncturation, on each side of the middle of the 4th dorsal segment with a slight ridge, the 7th with four little tubercles before the posterior border, the 8th without characters, so that the identity of the sex is doubtful. Length 2 mm.

Kashmir: Uri (ex *Bernhauer*).

SECTION IV.

1554. **Gyrophæna** (s. str.) **cognata**, sp. n.

Shining; head black; thorax and abdomen yellowish-red, the former broadly infuscate along the middle, the latter on the 4th and 5th (visible) segments; elytra yellow, the postero-external region blackish. Antennæ black, the first three joints yellow. Legs yellow. Length 3-3.3 mm.

Build of *pulchella*. Head with eight or nine moderate umbilicate punctures on each side; ground-sculpture present at the sides, absent elsewhere. Antennæ rather slender, the 4th joint slender and longer than broad, 5th much stouter, longer than broad, the penultimate as long as broad. Thorax formed as in *pulchella*, the disc with four larger quadrately placed punctures comprising the two pre-basal and two post-apical punctures, between these with a group of four small punctures, between the pre-basal punctures and the margin with two or

three small ones, the apical border on each side with a rather large puncture, towards the sides with three or four others ; ground-sculpture absent. Elytra broader and about a third longer than the thorax, finely, rather superficially and rather sparingly punctured, almost impunctate at the base ; ground-sculpture absent. Abdomen extremely finely and very sparingly punctured, the ground-sculpture feeble.

♂ : 8th dorsal segment with a rather slender cultriform process on each side, in the middle with a stouter triangular

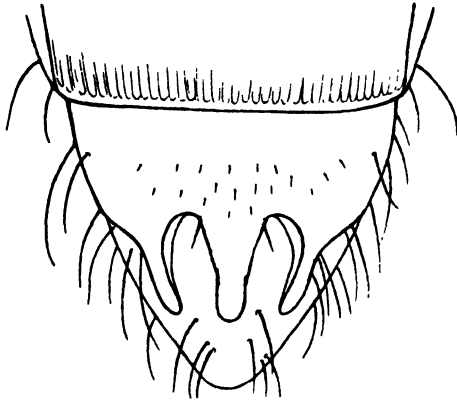


Fig. 30.—*Gyrophæna* (s. str.) *cognata*, ♂, apex of abdomen.

tooth, extending as far back as the lateral processes, between these and the tooth sometimes with a much smaller and shorter denticle on each side, but usually absent.

Kashmir : Gulmarg.

1555. ***Gyrophæna* (s. str.) *submetallica*, sp. n.**

Shining ; head and thorax with distinct purplish reflex, the former black, the latter more pitchy ; elytra yellow, obscurely infuscate at the postero-external angles ; abdomen reddish-yellow, the 4th (visible) segment infuscate. Antennæ black, the first four joints yellow. Legs yellow. Length 3 mm.

In build much resembling *pulchella*. Head with nine or ten umbilicate punctures of varying size on each side ; ground-sculpture scarcely visible. Antennæ with the 4th joint small, transverse, the 5th to 7th longer than broad, gradually decreasing in length, the 9th and 10th as long as broad. Thorax formed as in *pulchella*, about a third broader than long, the disc with four larger quadrately placed punctures comprising the pre-basal and post-apical, between these with eight or nine extremely fine simple punctures, between the pre-basal and the margin with a transverse row of three or four larger ones,

towards the sides with three or four small ones; ground-sculpture absent. Elytra broader and a little longer than the thorax, moderately finely and moderately closely punctured; ground-sculpture absent. Abdomen extremely finely, moderately closely punctured in front, almost impunctate behind and without ground-sculpture.

♂: 8th dorsal segment on each side with a rather long cultriform process, the margin between broad and truncate.

Siwaliks: Malhan Range, 24. ix. 22.

1556. *Gyrophæna* (s. str.) *quadrifida*, sp. n.

Shining; head black; thorax and abdomen yellowish-red, the 5th to 7th segments blackish; elytra reddish-yellow, the postero-external angles blackish. Antennæ with the first three joints yellow, the rest slightly infusate. Legs yellow. Length 2 mm.

Head on each side with five or six moderate punctures, finely coriaceous. Antennæ with the 4th to 10th joints transverse, the penultimate about half as broad again as long. Thorax formed as in *pulchella*, about a third broader than long, the disc with four quadrately placed punctures and smaller moderately close ones, between the pre-basal and the margin with a transverse row of very fine close punctures, towards the sides with four or five others; ground-sculpture fine. Elytra broader and slightly longer than the thorax, finely, rather closely punctured, less closely at the postero-external angles, very finely coriaceous. Abdomen very finely, moderately closely punctured, distinctly coriaceous.

♂: 7th dorsal segment near the posterior margin with a transverse row of six ridges of which the central pair are the strongest; 8th with a cultriform process on each side, at the middle with a pair of slender spines almost as long as the side process.

Kashmir: Gulmarg, vi., vii. 31.

1557. *Gyrophæna* (s. str.) *himalayica*, sp. n.

Shining; head black; thorax brown; elytra brownish-yellow infusate postero-externally; abdomen reddish-brown, the last three segments dark. Antennæ black, the first three joints and the legs yellow. Length 2-2.2 mm.

Head with seven or eight moderate umbilicate punctures on each side; ground-sculpture absent. Antennæ with the 4th joint as long as broad, the 5th a little longer, the penultimate as long as broad. Thorax a third broader than long, formed as in *permutaria*, the disc with four large quadrately placed punctures and smaller scattered ones between, towards the sides and along the base; ground-sculpture absent.

Elytra broader and a third longer than the thorax, moderately finely, closely and deeply punctured, without ground-sculpture. Abdomen almost impunctate, very finely coriaceous.

♂: 7th dorsal segment with a large flat tubercle; 8th on each side with a short, stout cultriform process, in the middle with a pair of short slender spines.

Ghum district: Rongdong Valley, v., vi. 31.

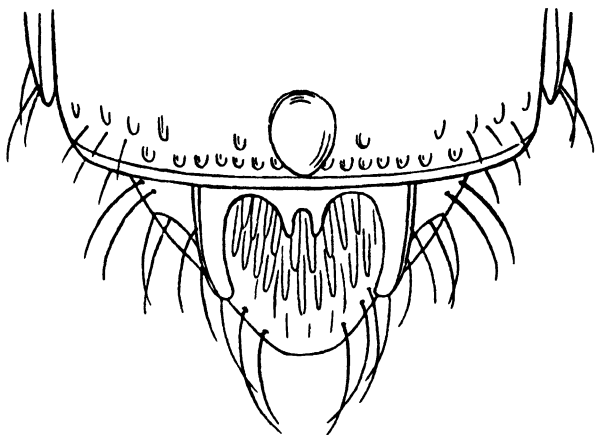


Fig. 31.—*Gyrophæna* (s. str.) *himalayica*, ♂, apex of abdomen.

1558. *Gyrophæna* (s. str.) *bicornis*, sp. n.

Shining; head black; thorax reddish-brown with the margins more or less lighter; elytra yellowish, darker postero-externally; abdomen reddish-brown, the 5th to 7th segments darker. Antennæ black, the first four joints yellow. Legs yellow. Length 2.3–2.75 mm.

In size and build very similar to *permutaria*, the antennæ similarly constructed, but of brighter colour, the elytra without ground-sculpture, different ♂ characters, etc. Head with a few moderate umbilicate punctures on each side; ground-sculpture scarcely visible. Antennæ with the 4th to 6th joints slightly longer than broad, the penultimate as long as broad. Thorax formed as in *affinis*, a third broader than long, the disc with four larger quadrately placed punctures (the pre-basal and post-apical), between these with four or five smaller ones, behind each pre-basal puncture with a very small one, between the apical and large post-apical punctures with another, towards the sides with three or four more; ground-sculpture absent. Elytra broader and a third longer than the thorax, finely, rather sparingly punctured especially towards the base and without ground-sculpture.

Abdomen with a row of very fine granules along the posterior margins of the segments, practically impunctate and without ground-sculpture.

♂: 8th dorsal segment with slender cultriform process on each side, the margin between feebly arcuate.

Ghum district, v., vi. 31.

1559. *Gyrophæna* (s. str.) *biarmata*, sp. n.

Shining; head black with slight metallic reflex; thorax ferruginous-red; elytra reddish-yellow, the postero-external region blackish; abdomen yellowish-red, the 6th and 7th segments more or less infusate. Antennæ with the 1st joint

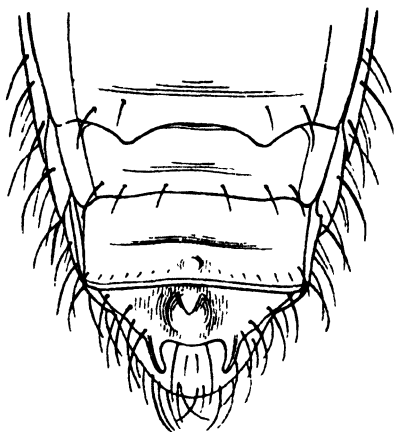


Fig. 32.—*Gyrophæna* (s. str.) *biarmata*, ♂, apex of abdomen.

more or less infusate, the 2nd and 3rd yellow, the following black. Legs yellow. Length 3 mm.

Head broad, on each side with a larger and six or seven smaller umbilicate punctures; ground-sculpture absent. Antennæ rather long, the 4th joint small, 5th to 7th longer than broad, decreasing in length, 8th to 10th as long as broad. Thorax formed as in *affinis*, fully a third broader than long, the disc with four large quadrately placed punctures (the pre-basal and post-apical), between these with five or six small ones, the apical punctures small, between the pre-basal puncture and the posterior margin with one or two more, towards the sides with two moderate punctures; ground-sculpture absent. Elytra broader and a third longer than the thorax, moderately finely and moderately closely punctured and without ground-sculpture; in both sexes with a raised impunctate crest along each side of the suture, more strongly

developed in the ♂. Abdomen almost impunctate and without ground-sculpture.

♂: elytra with the raised crest long the suture more developed; 5th dorsal segment with the posterior margin broadly arcuately emarginate in the middle and on each side obliquely truncate to the lateral margin; 7th with a large tubercle at the posterior margin; 8th with a tubercle near the posterior margin, the latter on each side with a slender spine, the border between gently rounded.

Ghum district: Mangpu.

1560. *Gyrophæna* (s. str.) ***vivida***, sp. n.

Shining: head black with slight metallic reflex; thorax and abdomen bright yellowish-red, the 5th and 6th segments infuscate; elytra reddish-yellow, blackish at the postero-external angles. Antennæ black, the first three joints and the legs yellow. Length 3 mm.

Near *biarmata* but with longer more slender antennæ, the penultimate joints a little longer than broad, the punctures of the head are larger and more numerous, those of the thorax rather more numerous; elytra more finely punctured, but with a similar raised ridge along the suture. Abdomen extremely finely and very sparingly punctured and, like the fore-parts, without ground-sculpture.

♂: unknown.

Assam: Sadiya. British Museum Collection.

1561. *Gyrophæna* (s. str.) ***sexualis***, sp. n.

In build, colour and antennal structure similar to *biarmata*, but differing in the following respects: the thorax between the quadrately placed punctures is much more punctured, the

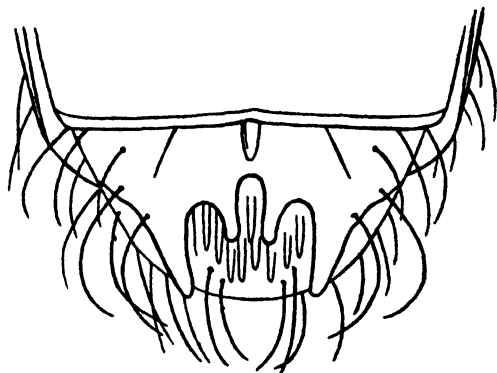


Fig. 33.—*Gyrophæna* (s. str.) ***sexualis***, ♂, apex of abdomen.

elytra without elevation along the suture, and the ♂ characters. Length 3 mm.

♂: 3rd dorsal segment with well-developed transverse ridge across the middle; 8th with a tubercle near posterior margin, on each side with a straight cultriform process, the border between with a pair of shorter, stout processes.

Ghum district: Mangpu.

1562. *Gyrophæna* (s. str.) *faguana*, sp. n.

Shining; head black; thorax and abdomen reddish-brown, the latter darker before the apex; elytra brownish-yellow, infusate postero-externally. Antennæ and legs yellow. Length 2 mm.

Head with about six or seven moderate umbilicate punctures on each side, the ground-sculpture scarcely visible. Antennæ with the 4th joint as long as broad, the 5th a little longer, the penultimate as long as broad. Thorax formed much as in *affinis*, a third broader than long, the disc with four larger quadrately placed punctures and closely covered with smaller umbilicate ones. Elytra broader and a little longer than the thorax, rather closely, moderately finely, deeply punctured. Abdomen with very fine, rather close granular sculpture, finely coriaceous.

♂: 7th dorsal segment with a large tubercle; 8th with slender cultriform process on each side and a pair of shorter slender spines in the middle.

Simla Hills: Fagu, alt. 8000 feet.

1563. *Gyrophæna* (s. str.) *thoracica*, sp.

Shining; head black; thorax dark brown, the sides and posterior margin narrowly yellowish; elytra yellow, slightly infusate at the postero-external angles; abdomen reddish-yellow, the 4th and 5th (visible) segments dark brown. Antennæ yellow, the 4th and following joints slightly infusate. Legs yellow. Length 3.4 mm.

Head with several umbilicate punctures of variable size on each side; ground-sculpture fine but distinct. Antennæ with the 4th joint small and transverse, the 5th a little longer than broad, the following about as long as broad. Thorax formed as in *affinis*, the disc with four large quadrately placed punctures comprising the pre-basal and post-apical, the whole disc with numerous small, rather close umbilicate punctures, between the pre-basal and the posterior margin also with a similar puncturation, and postero-externally also about a dozen similar punctures are present and one or two more in front; ground-sculpture fine but distinct. Elytra broader

and a third longer than the thorax, moderately finely, rather closely punctured; ground-sculpture absent. Abdomen very finely and sparingly punctured, finely coriaceous.

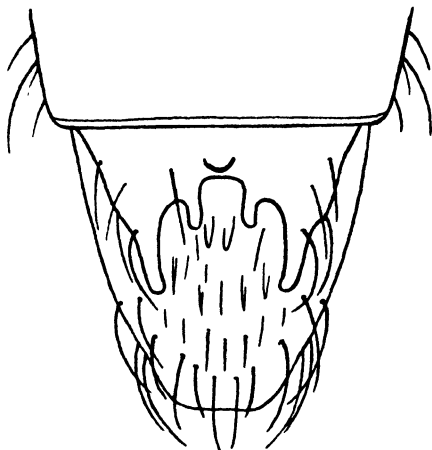


Fig. 34.—*Gyrophæna* (s. str.) *thoracica*, ♂, apex of abdomen.

♂: 8th dorsal segment with a tubercle at the posterior margin; on each side with a slender cultriform process, at the middle with a pair of shorter teeth, separated from each other by an arcuate emargination.

Simla Hills: Narkanda, alt. 9200 feet.

1564. *Gyrophæna* (s. str.) *læta*, sp. n.

Shining; head black with slight metallic reflex; thorax and abdomen reddish-yellow, the latter infusate before apex; elytra yellow. Antennæ with the first three joints yellow, the following infusate. Legs yellow. Length 2.3 mm.

Near *thoracica* but with differently coloured thorax, less distinct ground-sculpture, the disc less finely punctured. Head with numerous umbilicate punctures on each side, the ground-sculpture feeble. Antennæ with the 4th joint small and transverse, 5th to 7th slightly longer than broad, decreasing in length, the penultimate as long as broad. Thorax formed as in *affinis*, the disc with four larger quadrately placed punctures comprising the pre-basal and post-apical, the disc with numerous small umbilicate punctures rather closely placed, towards the sides with two or three smaller ones; ground-sculpture feeble. Elytra broader and about a third longer than the thorax, moderately finely, deeply, rather closely punctured; ground-sculpture absent. Abdomen finely and

sparingly punctured, more closely on the 4th to 6th segments ; ground-sculpture absent.

♂ : 3rd dorsal segment with a transverse ridge across the middle near the posterior margin ; 8th with a small tubercle at the posterior margin, on each side with a cultriform process, in the middle with a pair of shorter and more slender spines closer to one another than in *thoracica*.

Simla Hills : Matiana, Mussooree district, alt. 7000-7900 feet.

1565. *Gyrophæna* (s. str.) *anepsia*, sp. n.

Very near *læta*, similar in build, colour and antennal structure, but smaller (2 mm.) and less robust, the head with fewer punctures, the disc of thorax with extremely fine and fewer punctures ; ground-sculpture absent ; the elytra more finely, less deeply and less closely punctured. Also very near *amica* but with the antennæ a little longer, the 5th and 6th joints a little longer than broad, the penultimate not transverse, the disc of thorax much more finely punctured and without ground-sculpture, the elytra longer, about a third longer than the thorax.

♂ : 8th dorsal segment with a cultriform process on each side, in the middle with a pair of shorter and more slender spines.

Simla Hills : Theog, alt. 7600 feet.

1566. *Gyrophæna* (s. str.) *nigrita*, sp. n.

Shining ; head black, the rest pitchy-black. Antennæ with the first three joints yellow, the following reddish. Legs yellow. Length 2 mm.

Head on each side with ten or twelve umbilicate punctures varying in size ; ground-sculpture scarcely visible. Antennæ with the 4th joint stout, a little longer than broad, the 5th and following slightly longer than broad, scarcely differing amongst themselves. Thorax more than a half broader than long, formed as in *bihamata*, the disc with four larger quadrately placed punctures comprising the pre-basal and apical, and a rather close, much finer puncturation, becoming finer and more scanty towards the sides, between the pre-basal punctures and the posterior border, with numerous small close punctures ; ground-sculpture scarcely visible. Elytra broader and nearly a half longer than the thorax, finely and rather closely punctured, and without ground-sculpture, feebly elevated along the suture behind. Abdomen with a very fine, rather close granular sculpture, and with a row of larger granules along the posterior margins of the segments, the ground-sculpture distinct, coriaceous.

♂ : unknown.

Ghum district : Lepchajagat, v., vi. 31.

1567. *Gyrophæna* (s. str.) *ghumensis*, sp. n.

Shining; head black with distinct metallic reflex; thorax reddish-brown, the sides narrowly lighter; elytra pitchy, the humeral region yellowish-red; abdomen yellowish-red, the 5th to 7th segments blackish. Antennæ reddish-yellow, the 1st and 4th joints infusate. Legs reddish-yellow. Length 2 mm.

Build of *poweri* Crotch, of darker colour, longer and more slender antennæ, less finely, more closely punctured disc of thorax. Head broad, at the sides with a few small umbilicate punctures, the ground-sculpture scarcely visible. Antennæ with the 3rd joint distinctly shorter than the 2nd, 4th small, transverse, 5th much stouter, a little longer than broad, 6th to 10th as long as broad. Thorax about a half broader than long, the disc with four small quadrately placed punctures and finely and closely punctured; ground-sculpture absent. Elytra a little longer than the thorax, finely, closely punctured and without ground-sculpture. Abdomen very finely punctured, the posterior margins of the segments with a row of fine granules, ground-sculpture weak.

♂: 7th dorsal segment near the posterior margin at the middle, with two little keels converging behind; 8th with cultriform process on each side, and near the base of each internally with a small tooth, the space between the teeth arcuately emarginate.

Ghum district, v., vi. 31.

1568. *Gyrophæna* (s. str.) *festiva*, sp. n.

Shining; head reddish-brown; thorax light-brown, the sides and posterior border yellowish; elytra yellow, scarcely infusate at the postero-external angles; abdomen reddish-yellow, infusate before the apex. Antennæ and legs yellow. Length 2.75 mm.

Head with several umbilicate punctures of varying size on each side, the ground-sculpture very feeble. Antennæ with 4th joint small and transverse, the following stouter, as long as broad. Thorax more than a half broader than long, formed as in *poweri*, the disc with four moderate quadrately placed punctures, between them with finer, rather close umbilicate punctures, towards the sides with fine scattered ones; ground-sculpture scarcely visible. Elytra broader and a half longer than the thorax, finely and rather closely punctured; ground-sculpture absent. Abdomen very finely and very sparingly punctured, the ground-sculpture feeble.

♂: 7th dorsal segment with two short keels converging behind at the middle posteriorly; 8th with a slender process on each side, in the middle with a pair of much shorter and more slender spines.

Simla Hills: Gahan, alt. 7000 feet.

1569. *Gyrophæna* (s. str.) *amica*, sp. n.

Shining; head black with slight metallic reflex; thorax and abdomen reddish-yellow, the latter infusate before the apex; elytra yellow, slightly or not at all infusate at the postero-external angles. Antennæ with the first three joints yellow, the following infusate. Legs yellow. Length 2 mm.

Head with a few umbilicate punctures on each side; ground-sculpture feeble. Antennæ with the 4th joint small and transverse, 5th and 6th about as long as broad, the penultimate distinctly transverse. Thorax a half broader than long, the sides straighter and more retracted behind, the disc with four larger quadrately placed punctures, the pre-basal and post-apical and much smaller scattered ones between and external to them; ground-sculpture feeble. Elytra broader and but slightly longer than the thorax, moderately finely rather deeply and moderately closely punctured, more



Fig. 35.—*Gyrophæna* (s. str.) *amica*, ♂, apex of abdomen.

sparingly towards the base and without ground-sculpture. Abdomen extremely finely and very sparingly punctured, feebly coriaceous.

♂: 8th dorsal segment with slender cultriform process on each side, at the middle with a pair of shorter and more slender spines, the posterior margin between them somewhat raised and tumid.

Almora: Berenag, alt. 6000 feet. Simla Hills: Fagu, alt. 8000 feet.

1570. *Gyrophæna* (s. str.) *tripartita*, sp. n.

Shining, pitchy-black, the elytra at base obscure brownish-yellow. Antennæ with the first four joints yellow, the rest reddish-yellow. Legs yellow. Length 1.5 mm.

Head rather broad, on each side with a few small umbilicate punctures; ground-sculpture feeble. Antennæ with the 4th joint small and transverse, the 5th a little longer than broad,

the following as long as broad. Thorax one-half broader than long, the sides evenly rounded, the disc with the pre-basal and apical punctures larger and rather closely covered with small obsolete umbilicate punctures, between the pre-basal and the margin with several similar ones, towards the sides much more sparingly and obsoletely punctured; ground-sculpture very fine. Elytra broader and a half longer than the thorax, very finely, rather closely punctured postero-externally, more sparingly elsewhere; ground-sculpture absent. Abdomen extremely finely, sparingly punctured, the posterior margins of the segments with a row of fine granules, finely coriaceous.

♂: 7th dorsal segment with four little keels, of which the central are close together and larger; 8th with a slender

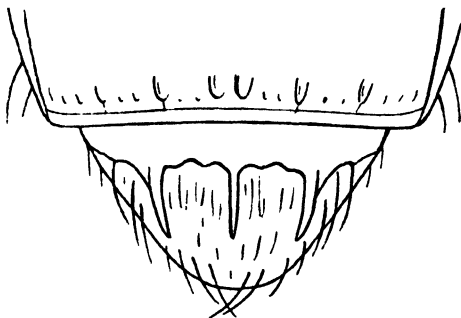


Fig. 36.—*Gyrophæna* (s. str.) *tripartita*, ♂, apex of abdomen.

cultriform process on each side, in the middle with a slender spine as long as the lateral processes.

Ghum district: Tiger Hill; Lepchajagat, alt. 8000–10,000 feet.

1571. ***Gyrophæna* (s. str.) *bigladiosa*, sp. n.**

Shining; head black; thorax and abdomen reddish-yellow, the former with the sides narrowly lighter, the latter infusate before apex; elytra brownish-yellow, infusate postero-externally. Antennæ with the first four joints yellow, the following blackish. Legs yellow. Length 2.75 mm.

Head on each side with several moderate umbilicate punctures and without ground-sculpture. Antennæ with the 4th joint small, the 5th and following all longer than broad, gradually decreasing in length, the penultimate only slightly longer than broad. Thorax one-half broader than long, the sides feebly rounded in front, straighter and slightly retracted behind, the disc closely and moderately finely punctured behind, the punctures umbilicate, more sparingly in front

and at the sides, the punctures simple; pre-basal punctures scarcely evident; ground-sculpture absent. Elytra broader and a third longer than the thorax, very finely, rather closely punctured and without ground-sculpture. Abdomen extremely finely punctured, the posterior margins of the segments with a row of very fine granules; finely coriaceous.

♂: 7th dorsal segment with a small tubercle near the posterior margin; 8th with a slender cultriform process on each side, the border between truncate.

Ghum district, v., vi. 31.

1572. *Gyrophæna* (s. str.) *picipes*, sp. n.

Shining: head black; thorax reddish-brown; elytra brownish-yellow, infusate postero-externally: abdomen black,

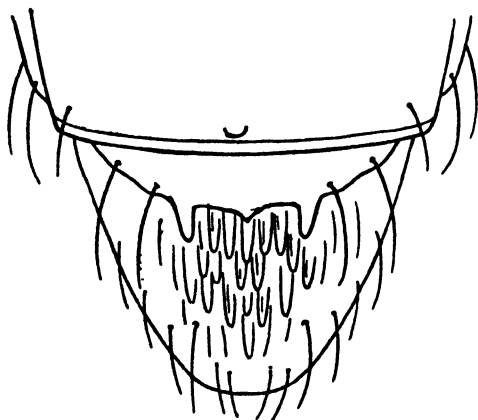


Fig. 37.—*Gyrophæna* (s. str.) *picipes*, ♂, apex of abdomen.

the base sometimes obscurely reddish. Antennæ with the 1st and 4th joints pitchy-black, the 2nd and 3rd yellow, the rest obscure reddish-brown. Anterior legs yellow, the middle and posterior with the femora and tibiæ more or less pitchy. Length 2.2 mm.

Easily recognized amongst the Indian species by the infusate legs. Head strongly and closely punctured at the sides; ground-sculpture absent. Antennæ slender, the 3rd joint as long as the 2nd, 4th distinctly longer than broad, 5th to 7th also longer than broad, the 5th much shorter than the 4th, 8th to 10th fully as long as broad. Thorax formed as in *bihamata*, about a third broader than long, the sides gently rounded, more retracted behind, the disc rather closely, moderately finely punctured, the punctures umbilicate, the

pre-basal punctures small, the sides almost impunctate; ground-sculpture absent. Elytra a little longer than the thorax, finely and closely punctured and without ground-sculpture. Abdomen very finely and sparingly punctured, the posterior margin of the segments with a row of very fine granules, coriaceous.

♂: 7th dorsal segment at the posterior margin with a small tubercle; 8th on each side with a stout triangular tooth, in the middle with a small triangular lobe with rounded apex, shorter than the lateral teeth.

Ghum district: Rongdong Valley, v., vi. 31.

1573. *Gyrophæna* (s. str.) *sororeula*, sp. n.

Shining; head black; thorax reddish-brown; elytra brownish-yellow, infusate postero-externally; abdomen black, the base pitchy. Antennæ yellowish-brown, the 1st, 4th, and 5th joints more or less infusate. Legs reddish-yellow, the tibiæ slightly infusate. Length 2 mm.

Very near *picipes*, of similar build but with the penultimate joints of antennæ scarcely longer than broad and smaller, with the fore-parts more finely punctured.

♂: 8th dorsal segment with a little tooth on each side, the margin between feebly rounded.

Ghum district: Rongdong Valley.

1574. *Gyrophæna* (s. str.) *vexans*, sp. n.

Shining; head black; thorax light brown, yellowish towards the sides; elytra brownish yellow, infusate postero-externally; abdomen brownish-yellow, darker before the apex. Antennæ with the first four joints yellow, the following distinctly infusate. Legs yellow. Length 2 mm.

Head with a few umbilicate punctures on each side, ground-sculpture absent. Antennæ with the 4th joint small, transverse, 5th about as long as broad, the penultimate scarcely transverse. Thorax formed much as in *bihamata*, the disc with two larger, pre-basal punctures and a scanty, fine, umbilicate, rather obsolete puncturation, behind the pre-basal punctures with a pair of basal ones and between these and the basal margin with some others much finer, the sides with a few punctures; ground-sculpture absent. Elytra broader and a little longer than the thorax, finely and rather closely punctured and without ground-sculpture. Abdomen very finely, sparingly punctured, the posterior margins of the segments with a row of fine granules, the ground-sculpture feeble.

♂: unknown.

Ghum district: Rongdong Valley.

1575. *Gyrophæna* (s. str.) *proxima*, sp. n.

Shining; head and thorax black; elytra pitchy with slight purplish reflex, scarcely lighter at the suture and base; abdomen reddish-yellow, the 6th and 7th segments black. Antennæ with the first four joints yellow, the rest black. Legs yellow. Length 2 mm.

Head with several umbilicate punctures of varying size on each side; ground-sculpture scarcely visible. Antennæ with the 4th joint small, transverse, 5th stout, longer than broad, the following as long as broad. Thorax a half broader than long, the sides less retracted behind than in *bihamata*, the disc with a pair of large pre-basal punctures and smaller rather close umbilicate ones, between the pre-basal and the posterior margin with similar ones, towards the sides with a few more; ground-sculpture absent. Elytra broader and a little longer than the thorax, finely and rather closely punctured; ground-sculpture absent. Abdomen very finely, sparingly punctured, along the posterior margins of the segments with a row of fine granules; the ground-sculpture feeble.

♂: 8th dorsal segment on each side with a slender inwardly directed cultriform process, in the middle with a pair of shorter and more slender spines, the margin between these tumid.

Ghum district: Mangpu, v., vi. 31.

1576. *Gyrophæna* (s. str.) *densicollis*, sp. n.

Shining; head black; thorax and abdomen light reddish-brown, the 6th segment infuscate; elytra brownish-yellow, darker at the postero-external angles. Antennæ with the first four joints yellow, the rest reddish-yellow. Legs yellow. Length 2 mm.

Head with numerous moderate umbilicate punctures on each side; finely coriaceous. Antennæ with the 4th joint small, about as broad as long, the 5th slightly longer than broad, the following about as long as broad. Thorax a third broader than long, formed as in *fasciata*, the disc finely and rather closely punctured, the punctures larger behind and finely umbilicate, the pre-basal punctures scarcely indicated, the puncturation finer and more sparing towards the sides, finely coriaceous. Elytra broader and a third longer than the thorax, finely, moderately closely punctured and with a fine but distinct ground-sculpture. Abdomen extremely finely and sparingly punctured, finely coriaceous.

♂: 8th dorsal segment broadly and feebly emarginate, on each side with a small obtuse angulation or tooth.

Simla Hills: Matiana; Narkanda, alt. 7900-9200 feet. Kashmir: Gulmarg.

1577. **Gyrophæna** (s. str.) **quadricarinata**, sp. n.

Shining ; head varying from pitchy-red to blackish ; thorax yellowish-red ; elytra yellow, the postero-external angles infuscate ; abdomen yellowish-red, the 5th and 6th segments blackish in the middle. Antennæ with the first three joints yellow, the following blackish. Legs yellow. Length 2.5 mm.

Somewhat like *læta*, but the head without metallic reflex, the penultimate joints of the antennæ transverse, the thorax without quadrately placed punctures, the basal ones feeble, the disc more sparingly punctured, the elytra much less deeply, more finely punctured, abdomen more distinctly coriaceous. Head with a few moderate punctures on each side, ground-sculpture indistinct. Antennæ with the 5th to 10th joints transverse. Thorax as in *gentilis*, a third broader than long, the pre-basal punctures small, the disc finely and very sparingly punctured ; ground-sculpture absent. Elytra a third longer than the thorax, moderately finely, moderately closely punctured. Abdomen very finely and sparingly punctured, finely coriaceous, with a row of fine granules along the posterior margins of the segments.

♂ : 7th dorsal segment with four keels near the posterior margin, of which the central pair is most developed ; 8th with a rather stout cultriform process on each side and a pair of slender spines in the middle nearly as long as the lateral processes, at the base of each with a keel.

Ghum district : Mangpu, Rongdong Valley, v., vi. 31.

1578. **Gyrophæna** (s. str.) **glareosa**, sp. n.

Shining ; head black, reddish in front, thorax and abdomen yellowish-red, the former infuscate on the disc, the latter infuscate on the 6th segment, elytra yellow, blackish at the postero-external angles. Antennæ with the first four joints yellow, the rest blackish. Legs yellow. Length 3 mm.

In build similar to *gentilis*, but the thorax more punctured, ground-sculpture less distinct, antennæ a little stouter, elytra more finely punctured. Very similar to *quadricarinata*, but the elytra much more finely punctured. Head with several large umbilicate punctures on each side, finely coriaceous. Antennæ with the 4th joint small and transverse, the 5th to 10th more strongly so. Thorax almost a third broader than long, formed as in *gentilis*, the disc with a pair of larger umbilicate pre-basal punctures and moderately close, finer ones, at the base with a transverse sulcus closely and finely punctured, towards the sides with a few scattered punctures ; ground-sculpture feeble. Elytra broader and a third longer than the thorax, finely and rather closely punctured and without ground-sculpture. Abdomen extremely finely, sparingly

punctured, along the posterior margins of the segments with a row of fine granules, very finely coriaceous.

♂ : unknown.

Simla Hills : Gahan, alt. 7000 feet.

1579. *Gyrophæna* (s. str.) *kaliana*, sp. n.

Head black, shining ; thorax light brown with the margins yellowish ; elytra brownish-yellow, darker postero-externally ; abdomen brown, with the 6th and 7th segments black. Antennæ with the first four joints yellow, the following reddish-yellow. Legs yellow. Length 2.3 mm.

Head rather broad, closely covered on each side with moderate umbilicate punctures, distinctly coriaceous. Antennæ with

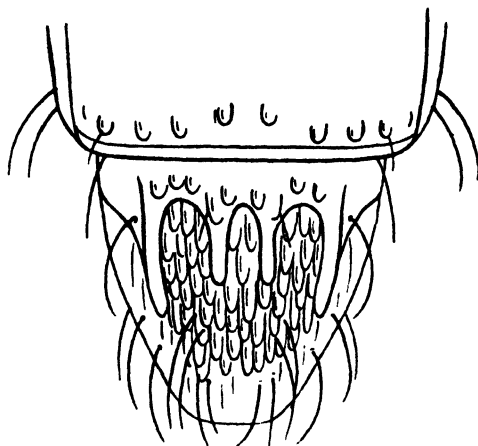


Fig. 38.—*Gyrophæna* (s. str.) *kaliana*, ♂, apex of abdomen.

the 4th joint small and transverse, 5th slightly longer than broad, the following as long as broad. Thorax nearly a third broader than long, the sides gently rounded in front, straighter and more retracted behind, rather closely covered with fine simple punctures, the apical punctures small, between the pre-basal and the posterior margin with a few extremely fine punctures, towards the sides with a fine, more sparing puncturation ; ground-sculpture well marked. Elytra broader and nearly a third longer than the thorax, finely and rather closely punctured and with distinct ground-sculpture. Abdomen extremely finely punctured and with a row of fine granules along the posterior margins of the segments, coriaceous.

♂ : 7th dorsal segment with four little keels, the central pair the largest ; 8th with a long slender cultriform process

on each side and with two slender median spines almost as long as the lateral processes.

Almora : Kali Valley, alt. 9000 feet, vii. 1923.

1580. *Gyrophæna* (s. str.) *nilgiriensis*, sp. n.

Shining ; head dark reddish-brown, thorax lighter, both with slight metallic reflex ; elytra brownish-yellow, darker at the postero-external angles ; abdomen reddish, the 6th segment dark. Antennæ black, the first four joints yellow. Legs yellow. Length 2 mm.

Head on each side with about a dozen small to moderate umbilicate punctures ; ground-sculpture absent. Antennæ with the 4th joint small and transverse, 5th to 7th slightly

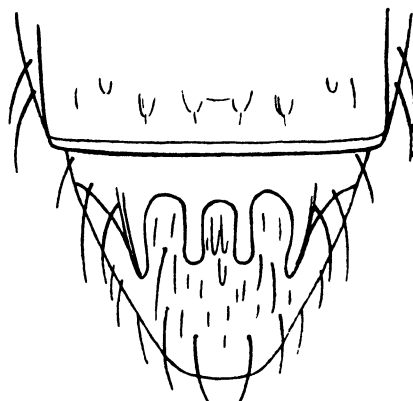


Fig. 39.—*Gyrophæna* (s. str.) *nilgiriensis*, ♂, apex of abdomen.

longer than broad, the following as long as broad. Thorax more than one-half broader than long, the sides straighter behind, the disc with a pair of larger pre-basal punctures and a few smaller scattered umbilicate ones, towards the sides with two or three others ; ground-sculpture absent. Elytra broader and a half longer than the thorax, finely, moderately closely punctured and without ground-sculpture. Abdomen extremely finely and sparingly punctured, the 5th to 7th segments with a few fine granules along the posterior margins ; ground-sculpture scarcely visible.

♂ : 7th dorsal segment with four keels near the posterior border ; 8th with moderately long cultriform process on each side, at the middle with a pair of straight spines almost as long as the lateral processes.

Nilgiri Hills.

1581. *Gyrophæna* (s. str.) *gregaria*, sp. n.

Shining; head black, thorax and abdomen lighter or darker chestnut-brown, the latter blackish before apex; elytra brownish-yellow or yellowish-brown, darker postero-externally. Antennæ with the first four joints yellow, the rest reddish-yellow. Legs yellow. Length 1.8–2.5 mm.

In colour very similar to *beesoni*, but with the antennæ reddish-yellow and the penultimate joints less transverse, head more punctured, thorax less transverse, more closely and more finely punctured, the elytra rather more closely and less finely punctured and without ground-sculpture. Head with numerous moderate umbilicate punctures on each side, indistinctly coriaceous. Antennæ with the 4th joint small, transverse, the 5th to 10th slightly transverse. Thorax more than a half broader than long, formed as in *manca*, the disc with feeble pre-basal punctures, the apical indistinct, extremely finely, moderately closely punctured, more sparingly towards the sides, basal punctures absent, scarcely coriaceous. Elytra broader and a half longer than the thorax, finely, moderately closely punctured; ground-sculpture absent. Abdomen extremely finely punctured, the posterior margins of the segments each with a row of extremely fine granules, finely coriaceous.

♂: 7th dorsal segment with four small tubercles at the posterior margin; 8th with a slender cultriform process on each side, in the middle with two slender spines close together and almost as long as the lateral processes, between each median spine and the lateral process with another shorter spine.

Ghum district: Tiger Hill; Mangpu; Rongdong Valley, alt. 6000–9000 feet.

1582. *Gyrophæna* (s. str.) *dejecta*, sp. n.

Shining; head black; thorax reddish-brown; elytra brownish-yellow, darker at the postero-external angles; abdomen pitchy-black, the base reddish. Antennæ clear reddish-yellow. Legs yellow. Length 1.8 mm.

Head on each side with ten or eleven moderate umbilicate punctures, finely but distinctly coriaceous. Antennæ with the 4th joint small and transverse, 5th slightly longer than broad, the penultimate slightly transverse. Thorax one-half broader than long, formed as in *manca*, the disc with two larger pre-basal punctures and finely and sparingly punctured, the punctures finely umbilicate, between the pre-basal punctures and the base with eight or nine others, towards the sides with a few more; finely coriaceous. Elytra broader

and a half longer than the thorax, very finely, rather closely, asperately punctured and distinctly coriaceous. Abdomen extremely finely, very sparingly punctured, finely coriaceous.

♂: 7th dorsal segment with a pair of large tubercles at the posterior margin in the middle; 8th with a slender cultriform process on each side, at the middle with a pair of shorter and more slender spines.

Simla Hills: Fagu; Gahan, alt. 7000–8000 feet.

1583. *Gyrophæna* (s. str.) *exigua*, sp. n.

Shining; head black; thorax pitchy-brown; elytra and abdomen pitchy-black. Antennæ with the first four joints yellow, the rest infusate. Legs yellow. Length 1.2 mm.

Smaller than *dejecta*, darker in colour, the antennæ infusate and the penultimate joints more transverse, head broader, thorax shorter, more transverse, more closely and more finely punctured, ground-sculpture less evident, elytra a little more finely, not asperately and more closely punctured, and without ground-sculpture. Head rather broad, at the sides with several small umbilicate punctures varying in size, indistinctly coriaceous. Antennæ with the 4th joint small, transverse, the penultimate about twice as broad as long. Thorax more than a half broader than long, the sides nearly straight and more retracted behind, closely and finely punctured on the posterior half of the disc, more sparingly in front and towards the sides, before the base with two rather larger pre-basal punctures; ground-sculpture feeble. Elytra broader and about a half longer than the thorax, very finely, rather closely punctured, with fine retiform ground-sculpture. Abdomen extremely finely and very sparingly punctured, along the posterior margins of the segments with a row of very fine granules.

♂: unknown.

Simla Hills: Fagu.

1584. *Gyrophæna* (s. str.) *lepcha*, sp. n.

Shining; head black, the rest pitchy-black, occasionally the thorax and base of abdomen dark brown. Antennæ clear reddish-yellow. Legs yellow. Length 2 mm.

Head with ten or twelve rather large umbilicate punctures on each side; ground-sculpture fine. Antennæ with the 4th joint small and transverse, the following as long as broad. Thorax about a third broader than long, formed as in *affinis*, the disc with two larger umbilicate pre-basal punctures and numerous rather close smaller ones, towards the sides with

yet finer and much more scattered punctures; ground-sculpture fine. Elytra broader and a little longer than the thorax, finely and rather closely punctured and with a fine but distinct ground-sculpture. Abdomen very finely punctured, finely coriaceous.

♂: 7th dorsal segment at the middle of the posterior margin with two oblique ridges or tubercles converging backwards; 8th with a slender cultriform process on each side and a pair of shorter and more slender spines in the middle.

Ghum district: Lepchajagat, v., vi. 31.

1585. *Gyrophæna* (s. str.) *bispinosa*, sp. n.

Shining; head black, reddish in front; thorax yellowish-red; elytra yellowish-brown, darker postero-externally; abdomen pitchy, obscurely lighter at the base. Antennæ with the first four joints yellow, the rest blackish. Legs yellow. Length 1.8 mm.

Head with six or seven small to moderate umbilicate punctures on each side, very finely coriaceous. Antennæ with 4th joint small and transverse, 5th scarcely longer than broad, the penultimate as long as broad. Thorax a half broader than long, the sides straighter and more retracted behind, the disc with two larger umbilicate pre-basal punctures and a very few smaller scattered ones, externally with three or four others, between the pre-basal punctures and the margin with a basal pair; ground-sculpture feeble. Elytra broader and a little longer than the thorax, finely and moderately closely punctured behind, more finely and less closely in front; ground-sculpture well marked. Abdomen extremely finely and sparingly punctured, the posterior margins of the posterior segments with a row of extremely fine granules, finely coriaceous.

♂: 8th dorsal segment on each side with a slender inwardly directed cultriform process, the margin between very slightly rounded and tumid.

Simla Hills: Fagu, alt. 8000 feet.

1586. *Gyrophæna* (s. str.) *beesoni*, sp. n.

Shining; head black, reddish in front; thorax reddish-brown, lighter at the sides; elytra brownish-yellow, darker towards the postero-external angles; abdomen reddish, the 5th to 7th segments darker. Antennæ with the first four joints yellow, the following black. Legs yellow. Length 2.5–3 mm.

Head rather broad, on each side with six or seven small to moderate umbilicate punctures, finely coriaceous. Antennæ

with the 4th joint small, transverse, the following transverse, the penultimate about a half broader than long. Thorax rather more than a half broader than long, the sides evenly rounded as in *minima*, the disc with the pre-basal punctures rather more evident and finely, rather sparingly punctured, between the pre-basal punctures and the posterior border finely and more closely punctured, the sides finely punctured like the disc; ground-sculpture fine. Elytra broader and about a half longer than the thorax, finely punctured, the puncturation closer and asperate postero-externally, the ground-sculpture fine and retiform. Abdomen extremely finely punctured, the posterior margins of the segments with a row of very fine granules.

♂: 7th dorsal segment near the posterior border with four keels; 8th with a rather slender cultriform process on each side, at the middle with a pair of slender spines almost as long as the lateral processes, at the base of each with a keel, sometimes with all the processes reduced in length.

Simla Hills: Gahan, Matiana, alt. 7000–8000 feet. Almora: Kali Valley, alt. 9000 feet.

1587. *Gyrophæna* (s. str.) *flavescens*, sp. n.

Shining reddish-yellow, the elytra and abdomen brownish-yellow. Antennæ and legs reddish-yellow. Length 2.5 mm.

Build of *beesoni*, but more brightly coloured, the antennæ of similar structure, the head more finely, less deeply punctured, thorax without larger pre-basal punctures, elytra less finely punctured. Head on each side with some small superficial umbilicate punctures; ground-sculpture absent. Antennæ with the 4th joint small and transverse, 5th scarcely longer than broad, the penultimate moderately transverse. Thorax more than a half broader than long, the sides evenly rounded, the disc finely, moderately closely punctured, the sides more sparingly; ground-sculpture absent. Elytra broader and a half longer than the thorax, finely, closely punctured. Abdomen very finely and sparingly punctured, along the posterior margins of the segments with a row of fine granules; very finely coriaceous.

♂: unknown.

Chakrata district: Sainj Khud, alt. 6500 feet.

1588. *Gyrophæna* (s. str.) *parkeri*, sp. n.

Shining; head dark reddish-brown to black, reddish in front; thorax yellowish-red, lighter at the sides; elytra brownish-yellow, darker at the postero-external angles;

abdomen reddish, the 6th and 7th segments black. Antennæ with the first four joints yellow, the rest scarcely infusate. Legs yellow. Length 2 mm.

Very similar to *beesoni*, but with the antennæ more slender, not so dark, and with the penultimate joints less transverse, thorax more finely punctured. Head with six or seven umbilicate punctures of varying size on each side; ground-sculpture fine but distinct. Antennæ with the 4th joint small, transverse, the 5th to 10th slightly transverse. Thorax a half broader than long, the sides evenly and gently rounded, the disc with a pair of larger pre-basal punctures, and very fine simple scattered punctures which extend outwards to the sides, between the pre-basal punctures and the margin with five or six small close ones placed transversely; ground-sculpture fine. Elytra broader and about a half longer than the thorax, very finely, rather closely punctured postero-externally, more sparingly towards the base and suture, and with a fine but distinct ground-sculpture. Abdomen extremely finely punctured, the posterior margins of the segments each with a row of fine granules, finely coriaceous.

♂: 7th dorsal segment near the posterior margin with a transverse row of four little keels; 8th on each side with a slender cultriform process, in the middle with a pair of shorter and more slender spines sometimes united at the base.

Simla Hills: Fagu, Gahan, alt. 7000–8000 feet. Almora: Kali Valley, alt. 9000 feet. Ghum district, alt. 8000–9000 feet.

1589. *Gyrophæna* (s. str.) *deficiens*, sp. n.

Shining, pitchy-black, humeral angles and sometimes the thorax and base of abdomen obscurely reddish. Antennæ with the first three joints yellow, the rest infusate. Legs yellow. Length 1.75–2 mm.

Somewhat resembling *manca* Er., in colour and build, but with longer, more slender and differently coloured antennæ, with the penultimate joints less transverse, head less finely more closely punctured, thorax much more closely punctured, the pre-basal pair of punctures feeble, its ground-sculpture and that on the head less marked, elytra more finely, less roughly punctured, the ground-sculpture finer: differs from *parkeri* in the colour, more slender antennæ, closer thoracic puncturation, less closely punctured elytra, and the fine but distinct ground-sculpture on the head, thorax and elytra.

♂: 7th dorsal segment with four distinct tubercles near the posterior margin, the central pair the largest; 8th with slender cultriform process on each side, in the middle close together with a pair of minute teeth.

Ghum district: Tiger Hill, alt. 8500–10,000 feet.

1590. *Gyrophæna* (s. str.) *difficilis*, sp. n.

Shining; head black; thorax reddish-brown; elytra blackish-brown; abdomen black, the base obscurely reddish. Antennæ black, the first four joints yellow. Legs yellow. Length 1.5–1.75 mm.

Head with six or seven small umbilicate punctures on each side, finely coriaceous. Antennæ with the 4th joint small and transverse, the 5th to 10th transverse. Thorax a half broader than long, the sides gently rounded, a little more retracted behind, the disc with a pair of small but more evident pre-basal punctures, finely and sparingly punctured, but with indication of a serial row of three or four punctures on each side of the middle, the sides sparingly punctured, between the pre-basal punctures and the margin with some small closely placed ones; ground-sculpture fine. Elytra broader and a little longer than the thorax, finely and sparingly punctured, and with distinct ground-sculpture. Abdomen extremely finely punctured, at the posterior margins of the segments with a row of fine granules; finely coriaceous.

♂: 7th dorsal segment with four keels near the posterior margin; 8th with a short cultriform tooth on each side, in the middle with a pair of minute teeth.

Ghum district: Mangpu, v., vi. 31. Manipur.

1591. *Gyrophæna* (s. str.) *mixta*, sp. n.

Shining; head black, thorax pitchy, elytra brownish-yellow, the postero-external region black, abdomen black, the base

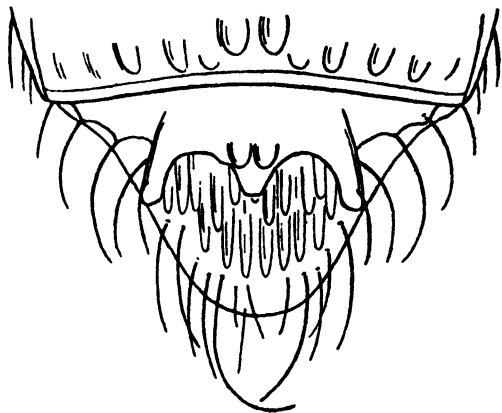


Fig. 40.—*Gyrophæna* (s. str.) *mixta*, ♂, apex of abdomen.

obscurely reddish. Antennæ with the first four joints yellow, the following dark. Legs yellow. Length 2 mm.

Near *difficilis* but a little larger, the antennæ with the penultimate joints as long as broad, the head and thorax with more numerous punctures, the elytra more closely punctured.

Head with ten or twelve small umbilicate punctures on each side, the ground-sculpture feeble. Antennæ with the 4th joint small and transverse, the 5th stout, a little longer than broad, the following as long as broad. Thorax strongly transverse, more than a half broader than long, the sides evenly rounded, the disc with a pair of large pre-basal punctures and with smaller, rather close, superficial umbilicate punctures, towards the sides with a finer simple and more scattered puncturation; ground-sculpture fine. Elytra broader and a half longer than the thorax, very finely, rather closely punctured postero-externally, more sparingly towards the base and suture, and with a fine ground-sculpture. Abdomen extremely finely punctured, along the posterior margins of the segments with a row of very fine granules, distinctly coriaceous.

♂: 7th dorsal segment with two little tubercles on the posterior margin at the middle; 8th with three short teeth of about equal size, the central one with two little tubercles at its base.

Ghum district, v., vi. 31.

1592. *Gyrophæna* (s. str.) *abnormalis*, sp. n.

Shining, pitchy-black, the humeral angles of the elytra obscurely lighter. Antennæ and legs entirely yellow. Length 1.3 mm.

A very small species remarkable by the absence of distinct punctures on the head, the obsolete pre-basal punctures of the thorax, the very few extremely fine, scarcely perceptible punctures of the disc, and the presence of a large puncture on each side externally a little before the middle. Head nearly as broad as the thorax, flat, scarcely perceptibly punctured at the sides, finely but distinctly coriaceous. Antennæ with the 4th joint small, 5th as long as broad, 6th to 10th slightly transverse. Thorax nearly a half broader than long, the sides gently rounded and more retracted behind, the pre-basal punctures indistinct and superficial, the rest consisting of three or four extremely fine, scarcely perceptible punctures, more externally with a large puncture as described above and with two or three scarcely perceptible punctures between it and the base, the ground-sculpture as on the head. Elytra about a half longer than the thorax, extremely finely, sparingly punctured, distinctly coriaceous. Abdomen with a row of very fine granules at the posterior margin of the

segments, otherwise almost without sculpture except for a fine coriaceous ground-sculpture.

♂: 7th dorsal segment with large tubercle at the posterior margin; 8th with a long slender incurved spine on each side, in the middle with a shorter and more slender spine sometimes bifid.

Ghum district, v., vi. 31.

1593. *Gyrophæna* (s. str.) *densipennis*, sp. n.

Shining, black or pitchy-black, the elytra more or less yellowish-brown at the base and suture, the apex of the abdomen sometimes obscurely reddish. Antennæ and legs reddish-yellow. Length 1·8–2 mm.

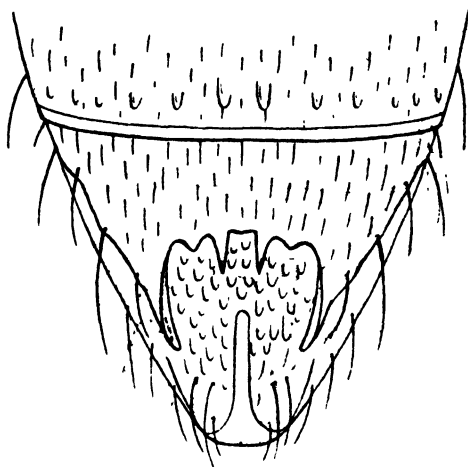


Fig. 41.—*Gyrophæna* (s. str.) *densipennis*, ♂, apex of abdomen.

Head extremely finely rather closely punctured all over, the ground-sculpture fine. Antennæ with the 4th joint small and transverse, the 5th slightly longer than broad, the 6th as long as broad, the penultimate slightly transverse. Thorax more than a half broader than long, the sides evenly rounded, the whole surface finely, rather closely and roughly punctured and without larger pre-basal punctures, finely pubescent and without ground-sculpture. Elytra broader and a little longer than the thorax, very closely, very finely asperately punctured and with a fine retiform ground-sculpture, finely pubescent. Abdomen extremely finely rather closely punctured, very finely coriaceous, finely pubescent.

♂: 8th dorsal segment with a long, slender, cultriform process on each side, in the middle with a pair of much shorter and more slender spines, the border between arcuately emarginate, occasionally between the lateral process and the median spine with trace of a tooth.

Ghum district, v., vi. 31.

1594. *Gyrophæna* (s. str.) *multifida*, sp. n.

Shining, light brownish-yellow. Antennæ entirely reddish-yellow. Legs yellow. Length 2 mm.

In size and build very similar to *densipennis* but of lighter colour, the head broader, more sparingly punctured and without ground-sculpture, thorax and elytra much more sparingly punctured.

Head rather broad, finely and sparingly punctured all over, the punctures simple; ground-sculpture absent.

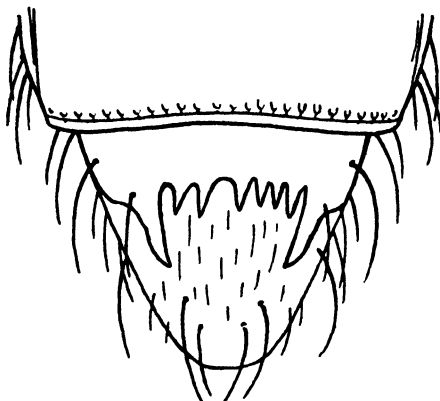


Fig. 42.—*Gyrophæna* (s. str.) *multifida*, ♂, apex of abdomen.

Antennæ with the 4th joint small and transverse, 5th slightly longer than broad, the penultimate as long as broad. Thorax two-thirds broader than long, the sides evenly rounded, finely and not closely punctured all over and without larger pre-basal punctures; ground-sculpture absent. Elytra broader and a little longer than the thorax, finely moderately closely punctured and with a very fine ground-sculpture. Abdomen extremely finely, moderately closely punctured, very finely coriaceous.

♂: 8th dorsal segment with a curved cultriform process on each side, the arcuate margin between furnished with six short spines.

Ghum district, v., vi. 31.

1595. *Gyrophæna* (s. str.) *maculicornis*, sp. n.

Shining, pitchy-brown, the elytra yellowish-brown with the shoulders lighter, the last two segments of the abdomen brownish-yellow. Antennæ clear reddish-yellow, the 1st and 5th joints black, the apex of the 11th infusate. Legs reddish-yellow, the tibiæ infusate. Length 2 mm.

Build of *densipennis* but with broader head. Head broad, very finely, moderately closely punctured all over, the punctures simple, ground-sculpture absent. Antennæ with the 3rd joint shorter than the 2nd, 4th scarcely transverse, 5th distinctly longer than broad, the penultimate fully as long as broad. Thorax nearly a half broader than long, the sides evenly rounded, very finely, moderately closely punctured all over, without larger pre-basal punctures or ground-sculpture. Elytra broader and a little longer than the thorax, very finely, rather closely punctured and with a fine ground-sculpture. Abdomen very finely moderately closely punctured, the ground-sculpture scarcely visible.

♂: 8th dorsal segment with a little tooth on each side, the margin between truncate.

Ghum district : Mangpu, v., vi. 31.

1596. *Gyrophæna* (s. str.) *pagana*, sp. n.

Shining; head and thorax dark reddish-brown, elytra and abdomen blackish-brown. Antennæ clear reddish-yellow, with the 1st joint infusate. Legs reddish-yellow, the tibiæ slightly infusate. Length 2 mm.

Near *maculicornis* but of darker colour, the head and thorax as finely but more closely punctured, the sculpture of the elytra and abdomen scarcely differ, the antennæ have the same structure and only differ in the colour.

♂: unknown.

Simla Hills : Fagu, alt. 8000 feet.

1597. *Gyrophæna* (s. str.) *distincta*, sp. n.

Shining, yellowish-red, the head and 6th and 7th abdominal segments infusate; elytra light brownish-yellow scarcely infusate at the postero-external angles. Antennæ black, the first three joints yellow. Legs yellow. Length 2 mm.

A convex species, in build very similar to *nana* Payk. Head with several moderate umbilicate punctures on each side and here and there between them with a few fine simple punctures; ground-sculpture absent. Antennæ with the 4th joint small and transverse, the 5th and following gradually more strongly transverse. Thorax nearly twice as broad as long, the sides evenly rounded, finely and irregularly punctured,

the sides much more sparingly, before the base with two rather more evident pre-basal punctures, between these and the margin with several small close ones; ground-sculpture absent. Elytra broader and about a half longer than the thorax, moderately finely, rather closely punctured and without ground-sculpture; abdomen extremely finely, sparingly punctured, distinctly coriaceous.

♂: 7th dorsal segment with four well-developed keels, the inner pair lightly curved; 8th on each side with a short cultriform process, at the middle with a pair of slender spines as long as the lateral processes.

Kashmir: Gulmarg, alt. 8000 feet.

1598. *Gyrophæna* (s. str.) *pallipes*.

Gyrophæna pallipes Kr., Arch. Naturg. xxv, 1859, p. 47.

Shining, black, the elytra pitchy-black. Antennæ blackish, the first three joints yellow. Legs yellow. Length 1.5-2 mm.

Head a little narrower than the thorax, at the sides with a few fine punctures. Antennæ rather slender, the 4th to 6th joints longer than broad, 7th to 10th about as long as broad. Thorax about twice as broad as long, the sides evenly rounded, the disc sparingly, finely and irregularly punctured. Elytra about a half longer than the thorax, finely and sparingly punctured. Abdomen very finely punctured.

♂: sutural margin of the elytra behind the middle somewhat raised; 8th dorsal segment with a median tubercle at the posterior margin, on each side with two long spines.

♀: unknown.

Ceylon.

1599. *Gyrophæna* (s. str.) *livida*.

Gyrophæna livida Motsch., Bull. Mosc. xxxi, 1858, iii, p. 231.

Gyrophæna pygmæa Kr., Arch. Naturg. xxv, 1859, p. 49

Gyrophæna oxyteloides Motsch., Étud. Ent. viii, 1859, p. 85.

Shining, yellowish-red, the elytra more or less extensively infuscate posteriorly, the abdomen with the 4th and 5th segments often blackish. Antennæ and legs yellow, the former slightly infuscate towards apex. Length 1.3 mm.

Head a little narrower than the thorax, on each side with a few fine punctures; ground-sculpture wanting. Antennæ with the 4th to 10th joints transverse. Thorax almost twice as broad as long, the sides evenly rounded, the disc extremely finely and rather sparingly punctured and without ground-sculpture. Elytra a little broader and nearly a half longer than the thorax, with an extremely fine, sparing puncturation and very fine ground-sculpture. Abdomen extremely finely

and very sparingly punctured. Fore-parts very finely pubescent.

♂: 7th dorsal segment with four elongate tubercles before the posterior margin, the external ones very small; 8th with rather broad rounded median lobe, on each side with a slender spine extending backwards a little beyond the lobe. There is no median spine as described by Kraatz in the co-type. Motschoulsky does not mention the ♂ characters.

Ceylon.

1600. *Gyrophæna* (s. str.) *malabarensis*, sp. n.

Head and thorax black, shining, with slight metallic reflex; elytra and abdomen pitchy, the former brownish-yellow about the scutellary region. Antennæ and legs reddish-yellow, the 10th and 11th joints of the former slightly infusate. Length 2.5 mm.

In the convex build and strongly transverse thorax resembling *nana*. Head rather broad, with numerous small to moderate umbilicate punctures on each side; ground-sculpture fine. Antennæ with the 4th joint small and transverse, the penultimate as long as broad. Thorax nearly twice as broad as long, the sides evenly rounded, the disc with a pair of more evident pre-basal punctures and sparingly, finely and irregularly punctured, towards the sides yet more sparingly; ground-sculpture as on the head. Elytra a little longer and broader than the thorax, finely and rather closely punctured, less so towards the base, distinctly coriaceous. Abdomen extremely finely punctured, the 5th and 6th segments with a few fine granules along the posterior margins, finely coriaceous.

♂: 8th dorsal segment on each side with a short stout cultriform process, the border between truncate.

Nilgiri Hills.

1601. *Gyrophæna* (s. str.) *parva*, sp. n.

Shining, black, the elytra pitchy with coppery reflex. Antennæ and legs reddish-yellow. Length 1.5 mm.

Head with several moderate umbilicate punctures on each side, finely coriaceous. Antennæ with the 4th joint small and transverse, the penultimate longer than broad. Thorax more than a half broader than long, the sides evenly rounded, more retracted behind, the disc with two moderate, umbilicate pre-basal punctures and finer irregularly scattered ones, at the sides very sparingly punctured; ground-sculpture scarcely visible. Elytra broader and a half longer than the thorax, finely, rather closely punctured, the ground-sculpture feeble. Abdomen very finely punctured, the posterior margins of the

6th and 7th segments with a row of very fine granules; ground-sculpture fine.

♂: unknown.

Manipur. British Museum.

1602. *Gyrophæna* (s. str.) *nilambura*, sp. n.

Shining; head black, reddish in front; thorax light castaneous; elytra brownish-yellow, darker at the postero-external angles; abdomen yellowish-red, the 6th and 7th segments infusate. Antennæ and legs reddish-yellow. Length 1.8–2 mm.

Head with about a dozen small umbilicate punctures on each side; eyes rather large; ground-sculpture very fine. Antennæ with the 4th joint small and transverse, the penultimate scarcely transverse. Thorax more than a half broader than long, the sides evenly rounded, the disc with two larger pre-basal, two small basal, and several small scattered umbilicate punctures, externally with a single puncture; ground-sculpture very fine. Elytra broader and a little longer than the thorax, finely, rather closely and deeply punctured postero-externally, more sparingly elsewhere, ground-sculpture more distinct than on the fore-parts, transverse and wavy. Abdomen extremely finely punctured, the posterior margins of the segments each with a row of extremely fine granules, finely coriaceous.

♂: 8th dorsal segment with transverse tubercle at the middle of the posterior margin, on each side with a stout cultriform process.

Madras: Nilambur. United Provinces: Dehra Dun. Simla Hills: Fagu, Gahan, Kotgarh, alt. 7000 feet.

1603. *Gyrophæna* (s. str.) *madrasiana*, sp. n.

Shining; head brownish-red; thorax lighter; elytra brownish-yellow; abdomen reddish-brown, the 6th and 7th segments darker. Antennæ and legs reddish-yellow. Length 1.75–2 mm.

Closely allied to *nilambura*, of similar build, and the antennæ similarly constructed; the punctures on the head are similar, those of the disc of thorax finer and more sparing, the pre-basal and basal punctures smaller, the elytra yet more finely, less deeply and sparingly punctured than in *nilambura* and with the ground-sculpture scarcely visible.

♂: 7th dorsal segment with a row of six very small tubercles along the posterior margin; 8th with a slender incurved cultriform process on each side, at the middle with a pair of shorter, slightly diverging spines.

Madras: Nilambur. United Provinces: Dehra Dun.

1604. *Gyrophæna* (s. str.) *hybrida*, sp. n.

Size, colour, and build of *madrasiana*, and with rather large eyes as in that species, but at once distinguished by the black antennæ, only the first four joints being yellow and the penultimate fully as long as broad; the puncturation and ground-sculpture of the thorax scarcely differs, the puncturation of the elytra is closer and more like that of *nilambura*, and the ground-sculpture is much more evident than in *madrasiana* though not so marked as in *nilambura*.

♂: unknown.

Madras: Nilambur.

1605. *Gyrophæna* (s. str.) *incola*, sp. n.

Head dark reddish-brown, lighter in front; thorax yellowish-red; elytra brownish-yellow, darker at the postero-external

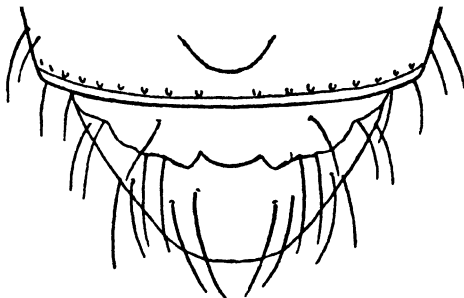


Fig. 43.—*Gyrophæna* (s. str.) *incola*, ♂, apex of abdomen

angles; abdomen yellowish-red, the 6th segment infuscate. Antennæ reddish-yellow, the apex of the last joint infuscate. Legs yellow. Length 1.4 mm.

Head broad, on each side with a few very fine simple punctures and two or three larger umbilicate ones, finely coriaceous. Antennæ with the 4th joint small and transverse, the 5th and following distinctly transverse. Thorax nearly twice as broad as long, the sides evenly rounded, the whole surface finely and sparingly punctured, more sparingly towards the sides, without larger pre-basal punctures; finely coriaceous. Elytra broader and a little longer than the thorax, extremely finely and rather sparingly punctured, finely coriaceous. Abdomen extremely finely and sparingly punctured, more distinctly coriaceous than the fore-parts.

♂: 7th dorsal segment with a flat tubercle near the posterior margin; 8th with a rounded central lobe, on each side with a small obtuse tooth.

Madras: Nilambur. United Provinces: Dehra Dun.

1606. *Gyrophæna* (s. str.) *siva*, sp. n.

Shining; head dark reddish-brown; thorax yellowish-red; elytra brownish-yellow; abdomen brown, reddish at base and apex. Antennæ with the first four joints yellow, the following black. Legs yellow. Length 1.75 mm.

Head broad, on each side with eight or nine small umbilicate punctures, ground-sculpture scarcely visible. Antennæ with the 4th joint small, transverse, 5th as long as broad, the penultimate slightly transverse. Thorax more than a half broader than long, the sides evenly rounded, the disc before the base with a pair of larger pre-basal punctures, very sparingly punctured, between the pre-basal punctures and the posterior margin with a transverse row of five or six very fine ones, the sides almost impunctate, the ground-sculpture more distinct than on the head. Elytra broader and a half longer than the thorax, finely, moderately closely punctured and without ground-sculpture. Abdomen extremely finely punctured, the posterior margins of the segments with a row of very fine granules; ground-sculpture feeble.

♂: 7th dorsal segment with a large tubercle at the posterior margin; 8th with a rather stout cultriform process on each side, in the middle with a pair of short sharp teeth.

Simla Hills: Fagu, alt. 8000 feet.

1607. *Gyrophæna* (s. str.) *abjecta*, sp. n.

Shining; head dark reddish-brown; thorax brownish-yellow, lighter at the sides; elytra brownish-yellow; abdomen brown, the 6th segment darker. Antennæ with the first four joints yellow, the following reddish-yellow. Legs yellow. Length 1.4 mm.

Head broad, on each side with seven or eight small to moderate umbilicate punctures; ground-sculpture absent. Antennæ with the 4th joint small, transverse, the 5th and following distinctly transverse. Thorax more than a half broader than long, the sides evenly rounded, without larger pre-basal punctures, extremely finely, rather sparingly punctured, the sides yet more sparingly; ground-sculpture absent. Elytra broader and a third longer than the thorax, very finely, roughly, rather closely punctured, more sparingly towards the base; ground-sculpture absent. Abdomen extremely finely, very sparingly punctured, the posterior margins of the segments with a row of extremely fine granules, finely coriaceous.

♂: 7th dorsal segment with four very small keels; 8th on each side with a little tooth, in the middle with a pair of scarcely visible ones.

Ghum district: Tiger Hill, alt. 8000-10,000 feet.

1608. *Gyrophæna* (s. str.) *gratella*, sp. n.

Shining, yellowish-red, the elytra more or less infusate postero-externally, the 6th abdominal segment blackish. Antennæ reddish-yellow, the 5th and following joints infusate. Legs yellow. Length 2 mm.

A brightly coloured species, somewhat resembling *minima* in colour and build, but larger and more robust, the antennæ much longer, the fore-parts without ground-sculpture. Head with seven or eight small to moderate umbilicate punctures on each side; ground-sculpture absent. Antennæ with the 4th joint small and transverse, 5th a little longer than broad, the following fully as long as broad. Thorax transverse (7 : 5), the sides gently rounded, a little more retracted behind, the disc with two larger pre-basal punctures, finely rather sparingly punctured, externally with a few others; ground-sculpture absent. Elytra broader and slightly longer than the thorax, finely but not closely punctured and without ground-sculpture. Abdomen extremely finely punctured, along the posterior margins of the segments with a row of fine granules, the ground-sculpture feeble.

♂ : 7th dorsal segment with a pair of small tubercles at the middle posteriorly; 8th with a slender incurved process on each side, between these with two little teeth which are nearer to the lateral processes than to each other.

Ghum district : Mangpu, v., vi. 31.

1609. *Gyrophæna* (s. str.) *obscura*, sp. n.

Shining; head and thorax light reddish-brown; elytra brownish-yellow, darker at the postero-external angle; abdomen reddish, the 5th and 6th segments darker. Antennæ with the first four joints yellow, the following black. Legs yellow. Length 1.5 mm.

In the build and antennal structure similar to *minima*. Head with five or six small umbilicate punctures on each side, very finely coriaceous. Antennæ with the 4th joint small and transverse, the 5th and following distinctly transverse. Thorax a half broader than long, the sides evenly rounded, the disc with two rather more evident pre-basal punctures, the whole surface finely and sparingly punctured, the ground-sculpture indistinct. Elytra broader and slightly longer than the thorax, very finely, moderately closely, somewhat roughly punctured, more sparingly at the base and near the suture; ground-sculpture absent. Abdomen very finely punctured, the posterior margins of the segments with a row of fine granules, finely coriaceous.

♂ : 7th dorsal segment with four keels near the posterior

margin; 8th with a slender cultriform process on each side, in the middle with a pair of somewhat shorter and more slender spines.

Nilgiri Hills.

1610. *Gyrophæna* (s. str.) *obscura*, sp. n.

Shining; head and thorax reddish-brown; elytra brown, yellowish at the shoulders; abdomen reddish-yellow, the 6th segment infusate. Antennæ with the first four joints yellow, the rest black. Legs yellow. Length 1.1 mm.

In colour and build very similar to *obscura* but smaller, the head narrower and differently punctured, the puncturation of the thorax and elytra finer, closer and asperate. Head very finely, rather closely and simply punctured at the sides, the ground-sculpture feeble. Antennæ with the 4th joint small, transverse, the 6th to 10th distinctly transverse. Thorax nearly twice as broad as long, the sides evenly rounded, the whole surface very finely, moderately closely, asperately punctured, less closely towards the sides, without larger pre-basal punctures or ground-sculpture. Elytra a little longer than the thorax, very finely, rather closely and roughly punctured and with distinct ground-sculpture. Abdomen very finely punctured, the posterior margins of the segments with a row of very fine granules, finely coriaceous.

♂: 8th dorsal segment with moderately slender cultriform process on each side, in the middle with a pair of shorter spines.

Chum, v., vi. 31.

Subgenus *PHÆNOGYRA* Muls. et Rey.

Phænogyra Muls. et Rey. Hist. Nat. Col. France, Aléoch. v. 1871, p. 76; Fenyès, Gen. Ins. 173 A, 1918, p. 104.

Distinguished by the head being only slightly transverse, the eyes less prominent, and the 8th dorsal segment in the males being without spines or processes.

Key to the Species.

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------|
| 1. Larger (1.5–2 mm.) | 2. |
| Minute (.75 mm.). Black species | <i>clavicornis</i> Cam., p. 141. |
| 2. Black; antennæ yellow | <i>curtula</i> Motsch., p. 141. |
| Species in greater part bright ferruginous-red; antennæ black, the 1st joint yellow | <i>ferruginea</i> , sp. n., p. 140. |

1611. *Gyrophæna* (*Phænogyra*) *ferruginea*, sp. n.

Shining, bright ferruginous-red, the elytra smoky-brown, reddish at the shoulders, the 4th (visible) abdominal segment

black, the 3rd and 5th more or less infusate. Antennæ black, the 1st joint reddish-yellow. Legs reddish-yellow. Length 2 mm.

In size and build very similar to *strictula* Er., the antennæ similarly constructed but stouter. Head a good deal narrower than the thorax, extremely finely, sparingly punctured, ground-sculpture absent. Antennæ with the 3rd joint as long as the 2nd, 4th to 10th transverse, gradually and slightly increasing in width. Thorax fully a half broader than long, the sides evenly rounded, very finely, sparingly punctured and without ground-sculpture. Elytra broader and about a half longer than the thorax, finely but less sparingly punctured; ground-sculpture absent. Abdomen a little dilated before the apex, very finely, rather sparingly punctured. The whole insect sparingly pubescent.

♂ (?): 6th ventral segment a little produced, narrowed and rounded at apex.

Kashmir: Gulmarg.

1612. *Gyrophæna* (*Phænogyra*) *curtula*.

Gyrophæna curtula Motsch., Étud. Ent. viii, 1859, p. 85 (Jan.).

Gyrophæna nigra Kr.*, Arch. Naturg. xxv, 1859, p. 49 (Sept.).

Shining, black, the thorax and base and apex of the abdomen often pitchy. Antennæ and legs yellow. Length 1.5 mm.

A good deal smaller and more shining than *strictula*, the ground-sculpture much less distinct, antennæ shorter, etc. Head narrower than the thorax, the sides very finely and very sparingly punctured, finely coriaceous. Antennæ with the 4th to 10th joints transverse, the penultimate strongly so. Thorax half as broad again as long, almost impunctate, occasionally with scarcely perceptible series of three punctures on each side of the middle; ground-sculpture as on the head. Elytra a little longer and broader than the thorax, almost impunctate, the ground-sculpture stronger than on the thorax. Abdomen with a row of minute granules along the posterior margin of the segments, practically impunctate, finely coriaceous.

♂; 7th dorsal segment on each side near the margin with a sharp tubercle; 8th with the posterior margin rounded.

Ceylon: Dikoya, alt. 3800–4200 feet.

1613. *Gyrophæna* (*Phænogyra*) *clavicornis*.

Gyrophæna clavicornis Cam., Treubia, vi, 1925, p. 189.

Minute, shining, black or pitchy, apex of abdomen and sometimes the base more or less fusco-testaceous; thorax with three very fine punctures on either side of the middle

line, the first of them at the anterior border; elytra extremely finely sparingly punctured. Antennæ and legs testaceous, the former stout, more or less infusate at apex. Length 0.75 mm.

Head almost impunctate, with scarcely perceptible ground-sculpture. Antennæ very short and stout, the penultimate joints about three times broader than long. Thorax strongly transverse, without ground-sculpture. Elytra extremely finely and extremely sparingly punctured, distinctly coriaceous. Abdomen scarcely perceptibly punctured, finely transversely strigose, the sides and apex with short stiff setæ. The 6th ventral segment in some examples is a little more produced and are presumably males.

Chittagong: Sitaphar River. Also in Sumatra.

Genus **STERNOTROPA** Cam.

Sternotropa Cam., Trans. Ent. Soc. Lond. 1920, p. 220.

Facies somewhat resembling *Brachida*. Head transverse, rounded, narrower than the thorax, temples bordered. Labrum transverse, the sides and anterior border rounded, in the middle obtusely emarginate. Mandibles stout, pointed, the right with a little tooth about the middle of the inner border. Maxillary palpi with the 1st joint very small, the 2nd gradually and slightly thickened towards the apex, 3rd about as long but a good deal stouter than the preceding, 4th subulate. Outer lobe of the maxilla narrow, its apex finely ciliate, inner lobe broad, its apex obliquely truncate and densely covered with fine spines, its inner margin with a few hairs. Mentum transverse, trapezoidal. Labial palpi 2-jointed, the 1st joint stout, about $2\frac{1}{2}$ times longer than broad, about the middle sometimes with an indistinct oblique suture, 2nd as long as but much narrower than the 1st. Tongue split to the base into two narrow parallel lobes. Paraglossæ feeble, not extending beyond the base of the 1st joint of the labial palpi. Thorax strongly transverse, convex, wider behind, the sides rounded, retracted in front, the posterior angles obtuse, base bisinuate. Pronotal epipleura strongly reflexed, not visible from the side. Prosternum reduced to a transverse bar, without deflexed posterior part. Mesosternum and its process distinctly carinate throughout, the latter broad and extending nearly the whole length of the coxæ, its apex truncate and meeting the metasternum. Elytra sinuate at the postero-external angles. Abdomen pointed, the segments not transversely impressed, the sculpture above and below reticulate. Tibiæ finely ciliate, the middle and posterior at the middle of the outer margin with a weak seta. Tarsi 4, 4, 5; the anterior

with the first three joints short, equal, the 4th longer than their combined length; middle with the first three joints rather short, the 4th as long as the preceding three together. Posterior with the first four joints gradually decreasing in length, the 5th as long as the three preceding together. Pubescence throughout rather long and coarse.

Differs from *Pseudoligota* in the longer, more deeply divided tongue, much longer 2nd joint of the labial palpi, the carinate mesosternum, and the emarginate elytra.

Key to the Species.

- | | |
|---------------------------------------------------------------------------------------|-----------------------------------------|
| 1. Antennæ reddish-yellow, the 1st, 2nd, 4th,
and 11th joints black..... | [p. 144.
<i>antennalis</i> , sp. n., |
| Antennæ otherwise | 2. |
| 2. Larger species (2.5–3 mm.) | 3. |
| Smaller species (1.5 mm.) | 4. |
| 3. Antennæ in greater part black | <i>apicalis</i> , sp. n., p. 145. |
| Antennæ in greater part red | <i>ruficornis</i> , sp. n., p. 143. |
| 4. Entirely reddish-ochraceous; antennæ red-
dish-yellow | <i>ochracea</i> , sp. n., p. 143. |
| Otherwise coloured | 5. |
| 5. Abdomen black; antennæ black, the base
reddish-yellow | <i>obscura</i> , sp. n., p. 144. |
| Abdomen reddish, the 6th segment and base
of 7 black; antennæ reddish-yellow | <i>nana</i> , sp. n., p. 144. |

1614. *Sternotropa ochracea*, sp. n.

Entirely reddish-ochraceous, moderately shining, the head a little infuscate, yellow pubescent. Antennæ reddish-testaceous. Legs testaceous. Length 1.5 mm.

A rather parallel species, the abdomen not much narrowed behind. Head very finely and rather closely punctured. Antennæ reaching the posterior angles of the thorax, 3rd joint shorter than 2nd, 4th to 10th transverse, the penultimate joints $2\frac{1}{2}$ times broader than long. Thorax half as broad again as long, widest at the obtuse posterior angles, very finely and rather closely punctured. Elytra scarcely longer or wider than the thorax, with a fine, rather close and asperate sculpture. Abdomen finely and rather closely punctured anteriorly, more sparingly behind, reticulate.

Mussooree: Aglar River, alt. 7000 feet.

1615. *Sternotropa ruficornis*, sp. n.

Shining, pale brownish-yellow, the head pitchy-black, the posterior half of the elytra and 4th and 5th (visible) abdominal segments infuscate. Antennæ reddish, the 1st and 11th joints infuscate. Legs yellow, the tibiae infuscate. Length 2.5 mm.

A little narrower than *apicalis*, differently coloured, the 4th joint of the antennæ transverse, the penultimate a little

more transverse than in *apicalis*, thorax less transverse, the elytra more closely and more roughly punctured, abdomen narrowed behind, more finely and more closely asperately punctured, less sparingly behind than in *apicalis*, the sculpture reticulate as in that species. The pubescence of the fore-parts longer and coarser.

♂: 7th dorsal segment with a median keel in the posterior half; 8th with two small acute teeth in the middle of the posterior margin, separated from each other by a narrow arcuate emargination.

Ghum district: Tiger Hill, alt. 8500–10,000 feet (*Cameron*).

1616. *Sternotropa obscura*, sp. n.

Moderately shining; head and abdomen black, thorax and elytra pitchy-brown. Antennæ blackish, the first four joints brownish-yellow. Legs yellowish. Length 1.5 mm.

Differs from *ochracea* in the colour, less parallel build, shorter, differently coloured antennæ, etc.

Head extremely finely, rather closely punctured. Antennæ with the 3rd joint shorter than 2nd, 4th to 10th transverse, gradually increasing in width, the penultimate joints not so broad as in *ochracea*. Thorax about twice as broad as long, the posterior angles obtuse, very finely, closely and roughly punctured. Elytra about as broad as but a little longer than the thorax, more closely and more roughly punctured. Abdomen narrowed from base to apex, very finely and closely punctured on the anterior segments, more sparingly behind; reticulate. The whole insect covered with a fine greyish pubescence.

W. Almora: Upper Gumti Valley (*H. G. Champion*). British Museum.

1617. *Sternotropa nana*, sp. n.

Near *obscura*, but of narrower build, the thorax and elytra lighter, of a yellowish-red colour, the abdomen reddish, with the 6th and anterior half of the 7th segments black and more sparingly punctured, the sculpture of the fore-parts scarcely differing from *obscura*, the antennæ reddish-yellow, but similar in structure to that species. Length 1.5 mm.

Kumaun: Haldwani district (*H. G. Champion*). British Museum.

1618. *Sternotropa antennalis*, sp. n.

Shining, reddish-brown, the abdomen with the 6th and anterior half of the 7th segments blackish, the posterior half and whole of the 8th yellow. Antennæ reddish-yellow, the

1st, 2nd, 4th, and 11th joints black. Legs reddish-yellow, the tibiae blackish. Length 2 mm.

At once distinguished by the colour of the antennæ. Build of *ruficornis*, but smaller and less brightly coloured, the antennæ shorter, the puncturation throughout finer. Head extremely finely, rather sparingly punctured. Antennæ short, the 4th to 10th joints transverse, the penultimate strongly. Thorax nearly twice as broad as long, extremely finely, moderately closely punctured. Elytra nearly a half longer than the thorax and a little broader, finely, closely and asperately punctured. Abdomen pointed, finely and closely punctured in front, less closely behind, the ground-sculpture reticulate. Pubescence rather long and coarse throughout.

Ghum district.

1619. **Sternotropa apicalis**, sp. n.

Shining, acuminate posteriorly, finely yellow pubescent. Head pitchy-red, thorax reddish-testaceous, elytra brownish-yellow; abdomen with the first three segments reddish, the 4th and anterior half of the 5th black, the rest testaceous. Antennæ black, the first three and the last joints reddish-testaceous. Legs testaceous. Length 3 mm.

Head very finely and very sparingly punctured. Antennæ with 3rd joint much shorter than 2nd, 5th much larger than 4th, about as long as broad, 6th to 10th slightly transverse. Thorax finely, moderately closely punctured, the posterior angles obtuse. Elytra less finely and more closely punctured than the thorax. Abdomen finely and rather closely punctured and pubescent, a little more sparingly behind, the sculpture reticulate.

♂: 7th dorsal segment with a tubercle at the posterior margin in the middle line; 8th on either side with a triangular tooth, the margin between with two smaller closely approximate denticles.

Simla Hills: Fagu, Theog, alt. 7000–8000 feet.

Genus **PSEUDOLIGOTA** Cam.

Pseudoligota Cam., Trans. Ent. Soc. Lond. 1920, p. 213.

Labrum transverse, the anterior margin slightly emarginate in the middle, the anterior angles rounded. Mandibles rather stout, the apices pointed and incurved, the right with a small tooth at the middle of the inner margin. Maxillary palpi 4-jointed, the 1st joint small, the 2nd moderate, lightly curved and widened towards apex, the 3rd much longer and larger

than the 2nd, regularly dilated from the base to the apex, the 4th subulate, about half the length of the 3rd. Inner lobe of the maxilla moderately broad, parallel, the apex truncate and very finely and shortly pectinate; the outer lobe broader, the apex pectinate, the teeth longer than those of the inner lobe. The tongue very small, triangular, split at the apex. Paraglossæ finely ciliate. Labial palpi 2-jointed, the 1st joint elongate, cylindrical, the 2nd shorter and much narrower than the 1st. Temples not bordered below. Thorax strongly transverse. Prosternum short, rounded behind in the middle. Pronotal epipleura wanting.

Mesosternum broad, fused with the metasternum, without visible suture. Intermediate coxæ distant. Elytra not

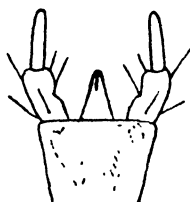


Fig. 44.—*Pseudoligota varians*, labium.

sinuate internal to the postero-external angle. Abdomen not transversely impressed at the bases of the segments. Tarsal formula 4, 4, 5. The first pair with the first three joints short, subequal, the 4th joint longer than their combined length; the second pair with the first three joints rather short, subequal, the 4th longer than the three preceding together; the third pair with the first two joints moderately long, equal, the 3rd and 4th gradually decreasing in length, the 5th rather longer than the two preceding together. Tibiæ finely ciliate. The structure of the antennæ and the maxillæ is similar to that of *Gyrophæna*; the 3rd joint of the maxillary palpi is more enlarged, however, than in that genus, whilst the build of the thorax, which is widest behind, with the sides gently rounded and converging anteriorly, approaches *Brachida*. At first view the species on which the genus is founded might well be taken for an *Oligota*.

Key to the Species.

- | | |
|--------------------------------------------------------------------------------------|----------------------------------|
| 1. Black species | 2. |
| Species in part yellowish-red | <i>karnyi</i> Cam., p. 147. |
| 2. Larger (1·3 mm.) and more robust; thorax and elytra more coarsely punctured | <i>soror</i> , sp. n., p. 147. |
| Smaller (1·1 mm.) and narrower; thorax and elytra more finely punctured | <i>affinis</i> , sp. n., p. 147. |

1620. *Pseudoligota karnyi*.

Oligota karnyi Cam., Treubia, vi, (2) 1925, p. 188.

Minute, shining, obscure pitchy- or yellowish-red, the head posteriorly and 4th and 5th (visible) abdominal segments blackish. Antennæ yellow, more or less infusate towards the apex. Legs yellow. Length 1-1.1 mm.

In facies somewhat resembling a minute *Acrotona*. Head much narrower than the thorax, extremely finely, very sparingly punctured, eyes large but not prominent. Antennæ reaching the base of the elytra, slender at the base, the 3rd joint shorter than the 2nd, 4th minute, transverse, 5th to 10th broader, gradually increasing in width, the penultimate about twice as broad as long. Thorax twice as broad as long, the sides rounded, retracted in front, the posterior angles obtuse, the base feebly bisinuate, puncturation very fine, asperate, closer than on the head. Elytra as long as but a little broader than the thorax, rather more strongly but similarly punctured. Abdomen narrowed from base to apex, extremely finely, moderately closely punctured, at the sides with some black setæ. The whole insect finely, not closely pubescent.

♂: suture of elytra on each side with trace of row of granules; 8th dorsal segment produced in the middle as a slender spine.

Dehra Dun. Siwaliks. In fungus and rotting fruit. Also in Sumatra, Malay Peninsula, N. Borneo, and N. Australia.

1621. *Pseudoligota affinis*, sp. n.

Shining, black, the antennæ yellow, the penultimate joints more or less infusate. Legs yellow. Length 1.1 mm.

Similar to *karnyi* except in the colour and ♂ characters.

♂: 8th dorsal segment produced in the middle and obtusely angulate.

Siwaliks: Nakraunda. In *Polyporus*.

1622. *Pseudoligota soror*, sp. n.

Shining black, the antennæ with the first four joints yellow, the rest infusate. Legs yellow, the tibiæ infusate. Length 1.3 mm.

Larger and more robust than *karnyi*, differently coloured, the antennæ longer and less robust, the puncturation, except on the head, less fine. More like *robusta* Cam., but the antennæ more slender, lighter at the base, the puncturation of the thorax and elytra a good deal coarser.

♂: unknown.

Siwaliks: Nakraunda. In *Polyporus*.

Genus **CÆNONICA** Kr.

Cænonica Kr., Linn. Ent. xi, 1857, p. 45; Fauv., Ann. Mus. Civ. Genova, xv, 1880, p. 112; Cam., E. M. M. iv, 1919, p. 230; Fenyes, Gen. Ins. 173 B, 1920, p. 142; Cam., Trans. Ent. Soc. Lond. 1920 (1921), p. 389.

Elongate species, sometimes more or less depressed and parallel or narrowed behind and somewhat convex. Head narrower than the thorax, constricted behind. Thorax transverse, the sides rounded in front, retracted and straighter behind, the disc with a U- or V-shaped impression. Elytra feebly or strongly sinuate internal to the postero-external angles. Abdomen with the first three visible segments strongly transversely impressed at their bases. Tibiæ finely ciliate, each with a rather long, fine seta about the middle

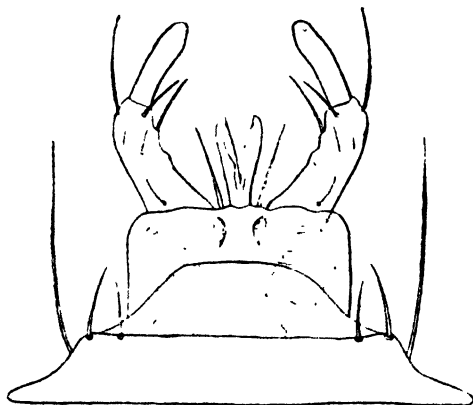


Fig. 45.—*Cænonica puncticollis*, labium.

externally. Tarsi 4, 4, 5; the anterior and middle with the first three joints short and subequal, the 4th longer than the first three together: posterior with the first four joints rather short, subequal, the 5th as long as the three preceding together. Temples bordered below, the gular sutures parallel, distant. Labrum transverse, the sides rounded, the anterior margin straight. Mandibles small, acutely pointed, the right with a little tooth. Maxillæ with the inner lobe narrow, pointed, closely spined along the inner border, the outer broader, shortly ciliate at apex. Maxillary palpi 4-jointed, the 1st joint small, 2nd slightly curved, thickened towards apex, 3rd longer than the 2nd, gradually enlarged from the base, 4th subulate, about half as long as the 3rd. Mentum transverse, trapezoidal, the anterior border feebly arcuately emarginate. Labial palpi 2-jointed, the 1st joint cylindrical,

often with a little notch on the inner margin before the apex, 2nd a little shorter and narrower than the 1st, slightly thickened towards apex. Tongue narrow, almost as long as the 1st joint of the labial palpi, split nearly to the base into two narrow lobes. Paraglossæ distinct, ciliate. Pronotal epipleura rather broad, visible from the side; prosternum with median keel; mesosternum simple, its process short and broad, truncate or rounded at apex, and extending about half the length of the coxæ, these moderately or rather widely separated; metasternal process narrowed and rounded at apex, meeting the mesosternal. The genus is found in the warmer parts of the earth, its members frequenting sappy bark, decaying fruit, etc.

Key to the Species.

1. Head and thorax strongly coriaceous, dull, the puncturation fine and more or less obsolete and confused with the ground-sculpture; thoracic impressions feeble; abdomen closely and finely punctured; black species *subopaca* Cam., p. 155.
- Head and thorax otherwise; the thoracic impressions usually well marked; abdomen finely and more sparingly punctured. 2.
2. Elytra with granular or asperate sculpture 3.
- Elytra with simple puncturation 11.
3. Antennæ with the 11th joint clear reddish-yellow 4.
- Antennæ with the 11th joint black, at most with the apex obscurely yellowish. 5.
4. Larger (2.75-3 mm.); more robust; puncturation of head deep [p. 158.
- Smaller (1.8 mm.); less robust; puncturation of head superficial. *semiaspera* Fauv.,
5. Black or pitchy species *varicornis* Kr., p. 161.
- More brightly coloured species ... 6.
6. Thorax at least at the sides with longitudinal rugæ; penultimate joints of antennæ slightly transverse 10.
- Thorax deeply punctured or granular [p. 158.
7. Thorax with rather fine granular sculpture. *granulipennis*, sp. n.,
- Thorax deeply punctured 7.
8. Thorax with rather fine granular sculpture. *consors*, sp. n., p. 156.
- Thorax deeply punctured 8.
8. Larger (3 mm.); fore-parts dull, penultimate joints of antennæ strongly transverse [p. 157.
- Smaller (1.8-2 mm.); very shining, penultimate joints of antennæ slightly transverse *mangpuensis*, sp. n.,
9. Elytra pitchy-black, closely punctured .. 9.
- Elytra yellowish-brown, rather sparingly punctured [p. 160.
10. Larger (2.2 mm.); puncturation of head superficial and obscurely umbilicate; *assamensis*, sp. n.,
- thorax narrow [p. 159.
- Smaller (2 mm.); puncturation of head *grosse punctata*, sp. n.,
- deep and umbilicate; thorax broad [p. 161.
- impressicollis* Motsch.,
- annuliventris* Kr., [p. 160.

11. Small (2 mm.), yellowish-red species, only the abdomen infusate before apex ; antennæ yellowish-red [p. 159.
andrewesi, sp. n.,
 12. Otherwise coloured 12.
12. Thorax slightly transverse, red, granular ; elytra yellow [p. 162.
thoracica Motsch.,
 Thorax strongly transverse, with simple or umbilicate punctures 13.
13. Head with a few extremely fine scattered punctures ; ground-sculpture absent ... [p. 154.
modiglianii Cam.,
 Head with large or moderate umbilicate punctures 14.
14. Elytra yellowish-red, at most slightly infusate postero-externally 15.
 Elytra otherwise 16.
15. Thorax black, less coarsely and less closely punctured *birmana*, sp. n., p. 154.
 Thorax red, coarsely and closely punctured. [p. 153.
abdominalis, sp. n.,
 Elytra pitchy-black *punctatissima*, sp. n.,
 Elytra bicolorous. 17. [p. 152.
17. Elytra black, with a small oblique yellow marking on each disc ; head and thorax more coarsely and less closely punctured. [p. 153
championi, sp. n.,
 Elytra yellow, the scutellary and postero-external region black ; head and thorax closely and less coarsely punctured *puncticollis* Kr., p. 150.

1623. *Cænonica puncticollis*.

Cænonica puncticollis Kr.*, Linn. Ent. xi, 1857, p. 46 ; id., Arch. Naturg. xxv, 1859, p. 10, tab. 1, fig. 3 ; Cam., E. M. M. xlix, 1913, p. 135 ; id., Trans. Ent. Soc. Lond. 1920, p. 390.

Phlæopora indica Motsch., Bull. Mosc. xxi, 1858, iii, p. 258.

Oxytelus simplex Motsch.*, Ét. Ent. viii, 1859, p. 70 ; Cam., E. M. M. lxx, 1934, p. 78.

Homalota cribriceps Shp.*, Trans. Ent. Soc. Lond. 1869, p. 166 ; Fauv., Rev. d'Ent. xxiii, 1904, p. 65 ; Fowler, Col. Brit. Isl. ii, 1888, p. 94, tab. 45, fig. 6.

Rather shining ; head black, thorax and abdomen dark reddish-brown, the latter blackish before the apex ; elytra yellow, the scutellary region and postero-external angles black or infusate. Antennæ pitchy, the first three joints reddish-yellow. Legs yellow. Length 2.75–3 mm.

Head narrower than the thorax, closely covered except in front with large umbilicate punctures, in front with a few very fine scattered ones ; ground-sculpture absent. Antennæ with the 4th to 10th joints transverse, the penultimate more than twice as broad as long, the 11th as long as the two preceding together. Thorax a half broader than long, the sides rounded and dilated in front, more retracted behind to the obtuse posterior angles ; disc somewhat flattened and with a large U-shaped impression behind, in the middle in front sometimes with a small impression ; the puncturation on the disc less coarse than that of the head, close and umbili-

cate, towards the sides finer and more sparing; ground-sculpture absent. Elytra a third longer but scarcely broader than the thorax, moderately finely, rather closely, simply punctured externally, more sparingly towards the suture. Abdomen parallel, finely not closely punctured and with scanty stiff pubescence.

♂: 8th dorsal segment in the middle with a broad parallel-sided plate, its lateral margins somewhat elevated, its posterior

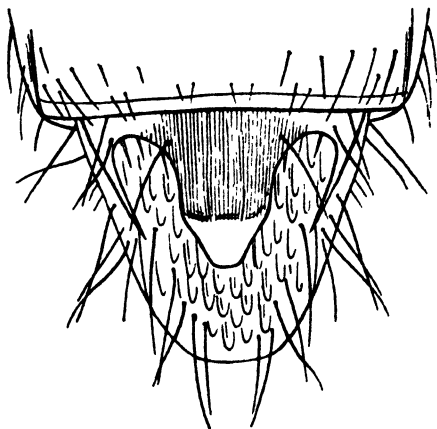


Fig. 46.—*Cænonica puncticollis*, ♂, apex of abdomen

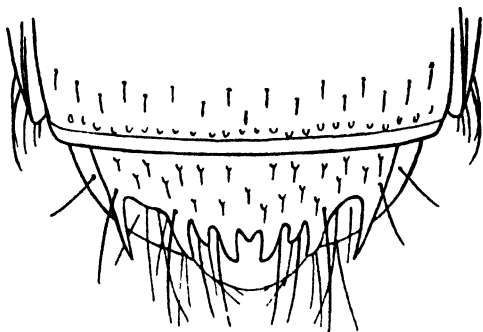


Fig. 47.—*Cænonica puncticollis*, ♀, apex of abdomen.

portion is strongly deflexed and not visible from above, narrowed and rounded, on each side with a longer or shorter spine. Seen from above the plate appears to be broadly truncate behind.

♀: 8th dorsal segment broadly rounded and furnished with four to six sharp teeth often unequal in size, on each side with a somewhat longer spine.

Ceylon. Widely distributed in the warmer parts of the earth. Has been found in England, doubtless imported. It frequents sappy bark, decaying fruit, etc.; its association with termites is accidental.

1624. *Cænonica punctatissima*, sp. n. (Bernh. *in litt.*).

Black, shining, the elytra obscurely lighter on the disc, the posterior margins of the abdominal segments obscurely reddish. Antennæ black, the first three joints reddish. Legs yellow. Length 3 mm.

Build of *puncticollis*, differently coloured, the antennæ very similarly constructed, puncturation of the head a little

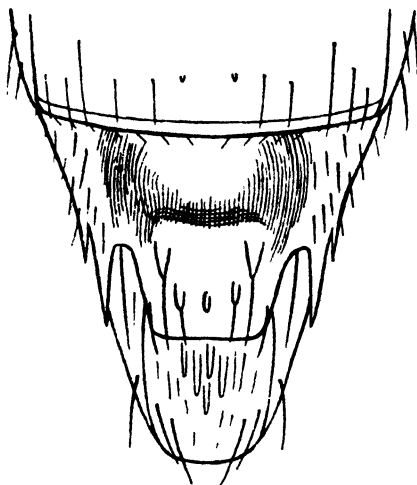


Fig. 48.—*Cænonica punctatissima*, ♂, apex of abdomen.

finer, closer, and with more evident ground-sculpture at the sides and base, thorax very similarly punctured, elytra more deeply and closely punctured, the abdomen more sparingly punctured than in that species. Head closely covered with umbilicate punctures except in front, ground-sculpture feeble but more distinct behind and at the sides. Antennæ with the 4th joint as long as broad, the 5th to 10th transverse, increasing in width, the penultimate twice as broad as long, the 11th as long as the two preceding together. Thorax a half broader than long, the sides rounded in front, straighter and more strongly narrowed behind to the obtuse posterior angles, before the base in the middle with a U-shaped impression, in the middle in front with a fine impressed line, the disc closely covered with rather large umbilicate punctures, towards

the sides more finely and more sparingly punctured ; ground-sculpture absent. Elytra a third longer and a little broader than the thorax, rather coarsely and closely punctured. Abdomen finely and rather sparingly punctured and with scanty stiff pubescence.

♂ : 8th dorsal segment on each side with a long, slightly curved spine, in the middle with a broad truncate lobe extending nearly as far back as the level of the lateral spines and separated from them by a deep emargination.

♀ : 8th dorsal segment broadly rounded and obscurely crenulate.

Simla Hills : Gahan, Theog, Fagu, Narkanda, alt. 7000-9000 feet. W. Almora ; Naini Tal.

1625. *Cænonica championi*, sp. n. (Bernh. *in litt.*).

Shining, black, the elytra each with a small oblique yellow marking near the suture ; abdomen dark reddish-brown, the 6th segment black. Antennæ black, the first three joints reddish. Legs reddish. Length 3-3.75 mm.

Build of *puncticollis* but larger, the antennæ stouter but similarly constructed, head much more sparingly punctured, thorax more coarsely and less closely punctured, the U-shaped impression much less distinct, only the transverse basal portion well marked, elytra more coarsely punctured, abdomen more sparingly punctured. The head has a curved zone of rather close, rather small umbilicate punctures between the eyes, elsewhere extremely finely and very sparingly punctured ; ground-sculpture absent, the thorax also is without ground-sculpture.

♂ : 8th dorsal segment produced as a broad truncate median lobe.

♀ : 8th dorsal segment with broader, less produced median truncate lobe, on each side with a rather long curved spine, not extending to the level of the apex of the median lobe.

United Provinces : W. Almora, Kumaun, July 1916 (*H. G. Champion*). On *Pinus longifolia*.

1626. *Cænonica abdominalis*, sp. n.

Head black, dull, thorax and elytra more shining, the former dark reddish-brown, the latter reddish-yellow infusate postero-externally ; abdomen yet more shining reddish, the 6th segment and base of the 7th blackish. Antennæ black, the first three joints and the last reddish-yellow. Legs yellow. Length 2.75 mm.

Build and colour of *puncticollis*, but the fore-parts less shining, the head coriaceous, the umbilicate punctures closer and smaller, the 4th joint of the antennæ as long as broad,

otherwise similarly constructed, thorax with the U-shaped impression much stronger, the umbilicate punctures larger, deeper and closer; elytra with much coarser and more uniform puncturation, more strongly sinuate at the postero-external angle, abdomen much less closely punctured, almost impunctate behind.

♂?: 8th dorsal segment obtusely angulate in the middle.

♀?: 8th dorsal segment broadly rounded.

Ghum district: Mangpu. In fungus.

1627. *Cænonica birmana*, sp. n.

Shining; head and thorax black; elytra reddish-yellow, infusate postero-externally; abdomen red, the 6th segment and anterior half of the 7th black. Antennæ black, the first three joints reddish-yellow. Legs yellow. Length 2.5 mm.

Very similar in all respects to *puncticollis*, but the head is distinctly coriaceous, the punctures, though equally close, are smaller and more superficial, antennæ less stout, the 4th joint as long as broad, the 5th less transverse, the U-shaped impression on the thorax not quite so well marked, the puncturation, however, scarcely different, elytra rather less finely, more closely and uniformly punctured, abdomen as in *puncticollis*.

♂: 8th dorsal segment with a central truncate lamella and spine on each side.

Burma: Ruby Mines (*Doherty*).

1628. *Cænonica modiglianii*.

Cænonica modiglianii Cam., Ann. Mus. Civ. Gen. lii, 1925, p. 35.

Shining; head black, thorax reddish-brown or black, elytra yellow, with the base narrowly, scutellary region and reflexed sides infusate. Abdomen with first three (visible) segments reddish-yellow or obscurely reddish, the following pitchy-brown. Antennæ black, the first three joints and apex of the last testaceous. Legs testaceous. Length 2.5–3.2 mm.

In build resembling *puncticollis*. Readily distinguished from all the rest of the genus by the fine and sparing puncturation of the head and absence of ground-sculpture.

Head broad but narrower than the thorax, deeply foveate in the middle between the eyes, very finely and sparingly punctured. Antennæ with the 2nd joint shorter than the 3rd, 4th about as long as broad, 5th to 10th transverse, gradually increasing in breadth, the 11th short, a little longer than the two preceding together. Thorax transverse (3.75: 2.5), widest just before the middle, the sides rounded in front, narrowed

to the obtuse posterior angles behind, with a U-shaped impression before the scutellum, the impression bifoveate, in front with a short impressed median line, finely and moderately closely punctured on the disc, more sparingly towards the sides. Elytra a third longer and a little wider than the thorax, transverse, rather finely punctured and more sparingly on the disc

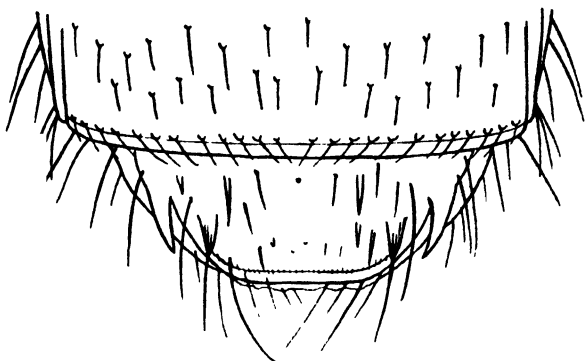


Fig. 49.—*Cænonica modiglianii*, ♂, apex of abdomen.

than at the sides. Abdomen finely, superficially and rather sparingly punctured.

♂: 8th dorsal segment broadly truncate at apex, on either side with a short, sharp tooth separated from the median lobe by a narrow triangular notch.

♀: 8th dorsal segment a little narrowed and broadly truncate.

Upper Burma: Pinwe, Katha. United Provinces: Kumaun, Tanakpur (*H. G. Ghampion*). The type is from Mentawai. Also in Engano.

1629. *Cænonica subopaca*.

Diestota subopaca Cam., E. M. M. lvi, 1920, p. 50.

Parallel, black, the fore-parts dull, the abdomen more shining, the posterior margins of the segments narrowly and obscurely pitchy-brown, first three joints of the antennæ and legs reddish-testaceous. Length 2.75 mm.

Head black, scarcely shining, subpentagonal, the eyes rather large and prominent, the temples straight, converging posteriorly, rather coarsely, moderately closely, but superficially punctured, the interspaces coriaceous. Antennæ short, the 2nd and 3rd joints of equal length, the 4th slightly, the 5th to 10th joints strongly transverse, the penultimate three times as broad as long, the 11th stout, longer than the two preceding together. Thorax strongly transverse, more than one-third as broad

again as long, the sides evenly rounded for the anterior two-thirds, slightly contracted to the obtuse posterior angles, which are a little prominent; the disc superficially longitudinally impressed on either side of the middle line, the impressions confluent behind, forming a U; sculpture in the ♂ moderately close, superficial, and subobsolete, in the ♀ without puncturation, in both sexes very distinctly coriaceous and finely

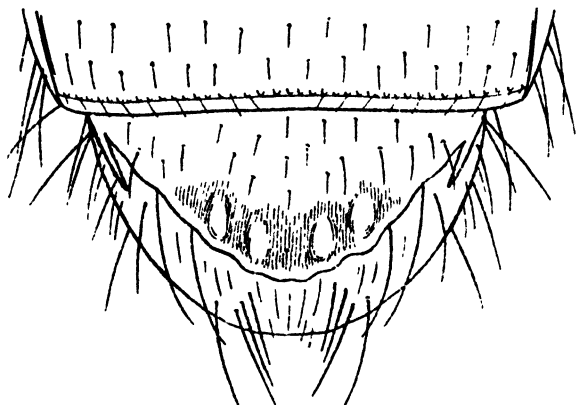


Fig. 50.—*Cænonica subopaca*, ♂, apex of abdomen.

pubescent. Elytra broader and a third longer than the thorax, transverse, the posterior margin sinuate externally; moderately closely, finely, and somewhat asperately punctured, finely pubescent. Abdomen parallel, the first three segments moderately coarsely and closely punctured, very finely and very sparingly punctured posteriorly, sparsely pubescent.

♂: 8th dorsal segment produced, the posterior border thickened and elevated and furnished with four rather large tubercles, the lateral angles spiniform.

♀: 8th dorsal segment a little produced and gently rounded.

Ceylon: Balangoda, alt. 1776 feet. India: Siwaliks; Asarori, Timli. Assam: Naga Hills, alt. 6000 feet. Under bark.

1630. *Cænonica consors*, sp. n.

Black, shining, the elytra and abdomen more so. Antennæ black, the 1st joint yellow. Legs pitchy, the tarsi yellow. Length 2.75 mm.

In the build of the thorax very similar to *subopaca*, but in other respects quite different. Head closely covered with rather large umbilicate punctures, ground-sculpture absent. Antennæ with the 4th joint as long as broad, the 5th to 10th

transverse, the penultimate twice as broad as long, the 11th about as long as the three preceding together. Thorax a half broader than long, the sides rounded but not strongly dilated in front, straight and retracted behind to the obtuse posterior angles, the U-shaped impression well marked and extending a good way towards the anterior border, the disc rather closely covered with fine granules, at the sides with larger and closer ones. Elytra broader and a little longer than the thorax, convex, with granular sculpture, the granules larger and closer in the scutellary region. Abdomen with the first three visible segments each with two transverse rows of fine punctures, the rest almost impunctate.

♂: unknown.

Bengal: Samsingh, Kalimpong, alt. 1800 feet (*Balwant Singh*). Assam: Patkai Mountains (*Doherty*).

1631. *Cænonica mangpuensis*, sp. n.

Fore-parts dull, the head black, the rest pitchy-black. Antennæ black, the first two joints pitchy. Legs reddish-yellow. Length 3 mm.

In colour and lustre very similar to *subopaca*, but differs in the sculpture, more dilated sides of the thorax, deeper U-shaped

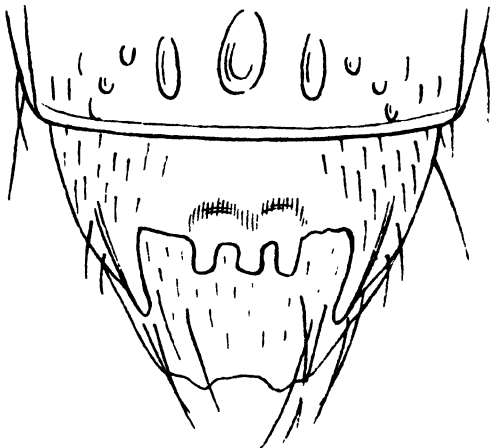


Fig. 51.—*Cænonica mangpuensis*, ♂, apex of abdomen.

impression, and almost impunctate abdomen. Head coriaceous, closely covered except in front with moderate, rather superficial umbilicate punctures. Antennæ very stout, the 4th to 10th joints strongly transverse, the penultimate three times broader than long, the 11th as long as the three preceding together. Thorax one-half broader than long, the sides

dilated and rounded in front, straight and retracted behind to the obtuse posterior angles, the U-shaped impression distinct, the disc moderately finely and closely punctured, the sides coarsely, closely and rugosely punctured. Elytra broader and a third longer than the thorax, closely covered with small granules. Abdomen very sparingly punctured, shining.

♂: 7th dorsal segment with three strong longitudinal keels near the posterior margin; 8th on each side with a moderate spine, the space between with three short blunt teeth.

Ghum district: Mangpu, v., vi. 31. Bengal: Samsingh, Kalimpong, alt. 1800 feet, xii. 33. Under bark (*Balwant Singh*).

1632. *Cœnonica semiaspera*.

Bolitochara semiaspera Fauv.*, Rev. d'Ent. xxiii, 1904, p. 65.

Black, head and thorax moderately, elytra and abdomen (especially the latter) more strongly shining. Antennæ blackish, the first three joints and the last reddish-yellow. Legs reddish. Length 2.75–3 mm.

Head a good deal narrower than the thorax, subpentagonal, the post-ocular region retracted, closely covered with large umbilicate punctures; ground-sculpture absent. Antennæ stout, the 3rd joint a little longer than the 2nd, 4th slightly longer than broad, the 5th to 10th transverse, gradually increasing in width, the penultimate fully twice as broad as long, the 11th almost as long as the three preceding together. Thorax transverse ($4\frac{1}{2}$: $3\frac{1}{2}$), convex, the sides rounded in front, straighter and retracted behind to the obtuse posterior angles, the disc behind with well-marked U-shaped impression, the puncturation coarse, close and rugose, here and there confluent. Elytra a little longer and distinctly broader than the thorax, convex, strongly sinuate at the external angle, asperately punctured, the punctures closer and coarser at the scutellary region. Abdomen very shining, the first four visible segments with a transverse row of very fine punctures, elsewhere nearly impunctate.

♂: elytra strongly raised along the suture except in front and behind; 7th dorsal segment with a short keel before the apex; 8th rounded and furnished with four blunt tubercles.

♀: 8th dorsal segment gently rounded.

Nilgiri Hills (*Andrewes*).

1633. *Cœnonica granulipennis*, sp. n.

Black, the fore-parts moderately, the abdomen strongly shining. Antennæ black, the first three joints reddish.

yellow. Legs more or less pitchy, the tarsi yellow. Length 3 mm.

Very near *semiaspera*, but differs in the longer and more slender antennæ, the penultimate joints less transverse, the 11th black, punctures of the head smaller, thorax with the sculpture more confluent longitudinally, forming well-marked rugæ on the disc, in the middle in front sometimes foveate, elytra with the granules much larger and closer, the abdomen scarcely differing from that of *semiaspera*.

♂: elytra with the sutural margin elevated except at the base and apex; 7th dorsal segment with a tubercle near the posterior margin; 8th with two rather large tubercles close together near the base, the posterior margin feebly rounded and more or less obscurely crenulate, on each side with a rather large tooth; 6th ventral segment produced, narrowed and rounded at apex.

Haldwani district: Kumaun; Kaidhunga, 26. iii. 23. In banana plants (*H. G. Ohampion*).

1634. *Cænonica andrewesi*, sp. n.

Rather shining yellowish-red, the elytra yellowish and obscurely infusate on the disc, the 6th abdominal segment blackish. Antennæ and legs reddish-yellow. Length 2 mm.

Head rather closely covered with rather small umbilicate punctures, ground-sculpture absent. Antennæ with the 4th joint as long as broad, the 5th to 10th transverse, the penultimate twice as broad as long, the 11th stout and conical. Thorax about a half broader than long, the sides rounded and dilated in front, straight and retracted behind to the obtuse posterior angles, the U-shaped impression feeble, in the middle in front with an impressed line, the sculpture consisting of very fine granules moderately close on the disc, more sparing on the sides, the pubescence yellow and rather coarse; ground-sculpture absent. Elytra about a half longer and distinctly broader than the thorax, convex, distinctly sinuate at the postero-external angles, somewhat coarsely and rather closely punctured, and with rather coarse yellow pubescence. Abdomen with the sculpture consisting of fine, moderately close elongate granules, each with a little hair.

Nilgiri Hills.

1635. *Cænonica grossepunctata*, sp. n.

Shining, black, the elytra yellowish-brown, a little infusate at the base. Antennæ black, the first three joints reddish-yellow. Legs reddish-yellow. Length 2 mm.

Head narrower than the thorax, practically impunctate in front, the rest of the surface with moderately close, coarse,

umbilicate punctures; ground-sculpture absent. Antennæ with the 3rd joint as long as the 2nd, 4th to 10th moderately transverse, not increasing much in width, the 11th as long as the 9th and 10th together. Thorax more than a half broader than long, the sides a little rounded in front, straighter and a little retracted behind to the obtuse posterior angles, before the base in the middle with two little impressions, the puncturation as on the head, and without ground-sculpture. Elytra about a third longer and a little broader than the thorax, with rather fine, feebly asperate, not very close sculpture. Abdomen finely and sparingly punctured on the first three segments, yet more sparingly behind.

United Provinces : Jhajra.

1636. *Cœnonica assamensis*, sp. n.

Shining, black, the elytra pitchy-black. Antennæ black, the first three joints reddish-yellow. Legs reddish-yellow. Length 1.8 mm.

Very near the preceding, similar in build and antennal structure, but blacker and a little smaller, the head with the punctures closer, thorax with the punctures less coarse and distinctly closer, elytra with the punctures much closer, less fine, and distinctly asperate.

♂: 8th dorsal segment on each side with a little tooth, the margin between a little produced beyond them and rounded, adjacent to it with a pair of large crescentic tubercles open behind.

Assam : Naga Hills, alt. 4000 feet. Nilgiris.

1637. *Cœnonica annuliventris*.

Leptusa annuliventris Kr.*, Arch. Naturg. xxv, 1859, p. 12.

Moderately shining; head black; thorax and elytra reddish-brown; abdomen reddish-yellow, the 6th segment blackish. Antennæ ferruginous-red, the 1st joint yellow. Legs yellow. Length 2 mm.

Head a little narrower than the thorax, the post-ocular region straight and retracted, the eyes rather large; in front practically smooth, elsewhere closely covered with moderately large umbilicate punctures; ground-sculpture feeble. Antennæ with the 3rd joint a little longer than the 2nd, the 4th to 10th transverse, the penultimate about $1\frac{1}{2}$ times as broad as long. Thorax nearly twice as broad as long, the sides rounded in front, straight and retracted behind, the posterior angles obtuse, in the middle behind with a deep U-shaped impression which extends nearly to the anterior margin,

closely, finely, asperately punctured. Elytra a little longer and broader than the thorax, more closely, rather more coarsely, asperately punctured. Abdomen nearly parallel, more shining, sparingly punctured on the anterior segments, nearly impunctate behind.

“Ind. Port.” (*Helfer*).

This insect and the following are very similar in build to *Diestota atra* Bernh. from the Philippines, which is also a *Cænonica*.

1638. *Cænonica varicornis*.

Leptusa varicornis Kr.*. Arch. Naturg. xxv, 1859, p. 13.

Very similar to the preceding, a little smaller, the punctures of the head smaller and more superficial, the ground-sculpture more distinct, so that the punctures are less evident, the last joint of the antennæ reddish-yellow, sculpture of the thorax closer and rather less fine, that of the elytra scarcely differing from *annuliventris*; abdomen pitchy, the posterior half of the 7th segment and whole of the 8th yellowish. Length 1·8 mm.

Ceylon.

1639. *Cænonica impressicollis*.

Phlaopora impressicollis Motsch.*. Bull. Mosc. xxxi, 1858, iii, p. 257; Cam., E. M. M. lxix, 1933, p. 220.

Moderately shining; head black, thorax dark reddish-brown; elytra blackish-brown; abdomen reddish, the 6th segment dark. Antennæ black, the first three joints and apex of the last reddish-yellow. Legs reddish-yellow. Length 2·2 mm.

Head coriaceous, behind with superficial, rather close, obscurely umbilicate punctures, the front impunctate. Antennæ with the 2nd and 3rd joints subequal, 4th to 10th transverse. the penultimate about twice as broad as long, the 11th fully as long as the 9th and 10th together. Thorax about a third broader than long, the sides rounded in front, retracted and a little sinuate to the obtuse posterior angles, posteriorly with long deep U-shaped impression, the sculpture granular and rather close; ground-sculpture absent. Elytra about a half longer and a little broader than the thorax, with close asperate sculpture. Abdomen very finely and very sparingly punctured.

♂: 8th dorsal segment with four or five large granules, the posterior border feebly rounded: 6th ventral segment a little produced, narrowed and rounded at apex.

“Ind. or.,” without further indication.

1640. *Cœnoniea thoracica*. (Plate I, fig. 7.)

Oxytelus thoracicus Motsch.*, Bull. Mosc. xxx, 1857, iv, p. 504 ;

Cam., E. M. M. lxx, 1934, p. 78.

Cœnoniea striticollis Cam., Trans. Ent. Soc. Lond. 1920, p. 241.

Moderately shining, head black, thorax pitchy red, strongly contracted towards the base, elytra testaceous, abdomen pitchy-testaceous or reddish. Length 2 mm.

Head subpentagonal, the eyes large and rather prominent, the temples convergent posteriorly ; disc impressed rather broadly, coarsely and closely punctured, the punctures obscurely umbilicate, finely pubescent. Antennæ obscurely reddish-testaceous or blackish, the first three joints paler, the 4th to the 10th transverse, gradually increasing in breadth, the penultimate nearly three times as broad as long, the 11th elongate, oval, pointed, as long as the three preceding together. Thorax transverse, one-third broader than long, widest at the middle, the sides rounded and contracted anteriorly, more strongly contracted and sinuate posteriorly to the obtuse and somewhat prominent posterior angles ; disc with a horseshoe-shaped impression posteriorly, and another rather deep oval one anteriorly in the middle line, the sculpture close and granular. Elytra broader than and a little longer than the thorax, transverse, puncturation superficial, moderately fine and moderately close, coarser and closer externally. Abdomen rather finely and closely punctured anteriorly, the 6th to the 8th segments much more sparingly, finely pubescent.

♂ : 8th dorsal segment with a sharp, short, incurved tooth on either side, the margin between the lateral teeth with four shorter, blunt teeth.

♀ : 8th dorsal segment feebly and broadly emarginate.

"Ind. or.," without further indication (*type*). Also in Singapore.

Genus **DIESTOTA** Muls. et Rey.

Diestota Muls. et Rey, Opusc. Ent. fasc. xiv, 1870, p. 194 ; id., Hist. Nat. Col. Fr. Brév. Aléoch. v, 1871, p. 97 ; Sharp, Trans. Ent. Soc. Lond. 1876, p. 47, and 1880, p. 43 ; Casey, Trans. Acad. Sci. St. Louis, xvi, 1900, pp. 277, 279 ; Fenyès, Gen. Ins. 173 A, 1918, p. 77.

Prosilusa Cam., Trans. Ent. Soc. Lond. 1920, p. 236.

Somewhat convex, subparallel species, somewhat resembling *Plagiusa* in build. Labrum transverse, the sides rounded, the anterior border feebly and broadly emarginate, at the middle with two small setiferous tubercles. Mandibles rather stout, somewhat prominent, curved at the extremity and pointed, the outer margin with a small notch, the inner border of the right with a tooth. Maxillary palpi 4-jointed, the 1st joint small, the 2nd elongate, slightly widened towards

the apex, the 3rd as long as and scarcely wider than the 2nd, the 4th subulate, about one-third the length of the 3rd. Inner lobe of the maxilla narrow and elongate, pointed and incurved at the tip, the inner margin furnished with short and stout pectinations anteriorly, and with long and stout pectinations posteriorly; outer lobe narrow, but broader than the inner, ciliate at the apex. Mentum transverse, the sides broadly, the anterior border broadly and rather deeply emarginate. The tongue small and rather short, not extending for half the length of the 1st joint of the labial palpi, split nearly to the base into two narrow lobes. Labial palpi 2-jointed, elongate, styliform, reaching to the extremity of the mandible, the joints of equal length and indistinctly separate. Temples

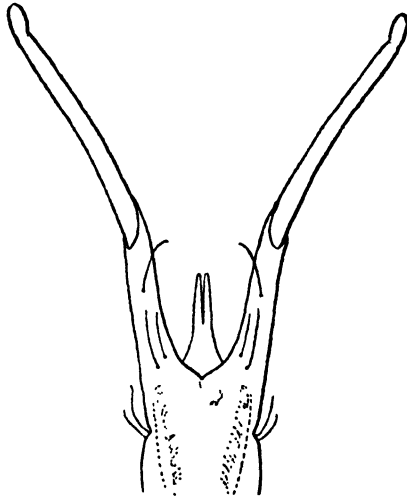


Fig. 52.—*Diestota sumatrensis*, labium.

very finely bordered below. Gular sutures distant, slightly divergent behind. Pronotal epipleura distinctly visible from the side. Prosternal process acuminate posteriorly. Mesosternum broadly rounded behind, carinate, extending for about one-half the length of the intermediate coxæ, which are distant. Metasternal process truncate, not quite meeting the mesosternal process. Abdomen with the first three dorsal segments distinctly transversely impressed at the base. Tarsal formula 4, 4, 5; the anterior tarsi with the first three joints short and subequal, the 4th longer than the three preceding together; the middle pair similarly constructed; the posterior pair with the first four joints a little longer than

broad, subequal, the 5th as long as the three preceding together. Elytra sinuate internal to the postero-external angles.

A number of species appear to be improperly referred to this genus.

Key to the Species.

- | | |
|---------------------------------------------------------------------------|--------------------------------------------|
| Larger (3 mm.) and more robust; elytra coarsely, rugosely punctured | <i>indica</i> , sp. n., p. 165. |
| Smaller (2.5 mm.) and narrower; elytra very finely punctured | [p. 164.]
<i>testacea</i> Muls. et Rey. |

1641. *Diestota testacea*. (Plate I, fig. 5.)

Bolitochara testacea Kr., Arch. Naturg. xxv, 1859, p. 7; Fauv., Rev. d'Ent. xix, 1900, p. 245 (*Diestota*); Sharp, Faun. Haw. Col. iii, 1908, p. 566; id., E. M. M. xlv, 1909, p. 269; Fowler & Donisthorpe, Col. Brit. Isl. vi, 1913, p. 52; Bernh., W. z. B. lxxviii, 1928, p. 35.

Bolitochara impacta Blackb., Trans. Dublin Roy. Soc. (2) iii, 1885, p. 120.

Diestota mayeti Muls. et Rey, Opusc. Ent. xiv, 1870, p. 196; id., Ann. Soc. Linn. Lyon. xviii, 1871, p. 172, and xix, 1872, p. 189; Mars., Abeille, viii, 1871, p. 125.

Prosilusa rufa Cam., Trans. Ent. Soc. Lond. 1920, p. 237.

Rufo-castaneous, shining; the elytra in great part and the base of the 6th abdominal segment pitchy-black. Antennæ, mouth-parts, and legs reddish-testaceous. Length 2.5 mm.

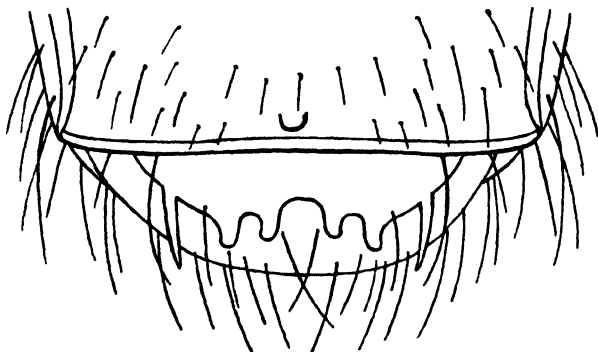


Fig. 53.—*Diestota testacea*, ♂, apex of abdomen.

Head rather large, transverse, triangularly produced in front, the eyes large and rather prominent, their diameter greater than the length of the temples, which are rounded and slightly convergent posteriorly, passing insensibly into the base; finely and rather sparingly punctured, finely and sparingly pubescent. Antennæ with the 2nd and 3rd joints subequal, not quite so long as the 1st, the 4th to the 10th transverse, gradually increasing in breadth, the 10th fully

two and a half times broader than long, the 11th rather large, oval, bluntly pointed, longer than the preceding two together. Thorax strongly transverse, rather more than half as broad again as long, widest before the middle, the sides bordered, contracted and rounded anteriorly, more strongly contracted in a nearly straight line to the obtusely rounded posterior angles, the base bordered and distinctly bisinuate; disc before the scutellum with a deep transverse impression; finely and more closely punctured than the head, finely pubescent. Scutellum finely and indistinctly punctured. Elytra broader and one-third longer than the thorax, transverse, the sides gently rounded, pitchy-black, reddish towards the base, rather more finely and rather less closely punctured than the thorax and finely pubescent. Abdomen finely and rather sparingly punctured, much more so posteriorly, finely and sparingly pubescent, the sides with fine setæ.

♂: 7th dorsal segment with a tubercle in the middle line before the posterior margin; 8th with a rather long straight spine on each side of the posterior margin, the space between with four or five short blunt teeth.

Burma: Tenasserim, Tavoy. Widely distributed in the Oriental region; Hawaii; New Britain. Has also been found in France and England (probably introduced). Usually found in rotting fruit and vegetable detritus.

1642. *Diestota indica*, sp. n.

Rather shining; head and abdomen black, the latter with the posterior margins of the segments reddish-yellow; thorax reddish-brown, elytra smoky-brown with the base and posterior margin more or less reddish. Antennæ reddish-brown, the first three joints lighter. Legs reddish-yellow. Length 3 mm.

In size and build very similar to *Diestota sumatrensis* Bernh., but with narrower, rounder head, shorter and much stouter antennæ, differently coloured and much more coarsely punctured elytra, differently coloured and much more sparingly punctured abdomen. Head transversely suborbicular, much narrower than the thorax, with moderately close, flat superficial punctures; ground-sculpture absent; eyes moderate. Antennæ stout, the 3rd joint as long as the 2nd, 4th slightly longer than broad, 5th to 10th gradually more transverse, the penultimate twice as broad as long, the 11th as long as the 9th and 10th together. Thorax transverse (5.75:4), convex, the sides rounded in front, straight and slightly retracted behind, the posterior angles obtuse, before the base on each side with a curved, finely punctured, impressed line, and before the scutellum with two small foveæ, the

punctuation fine, obsolete, moderately close; ground-sculpture absent. Elytra longer (5:4) and a little broader than the thorax, coarsely and closely punctured, rugose. Abdomen a little narrowed near the apex, very finely and sparingly punctured, especially behind, the basal impressions of the first two visible segments impunctate. Pubescence of the fore-parts rather long, coarse and moderately close, that of the abdomen shorter and very sparing.

♂: unknown.

Ghum district: Rongdong Valley.

Genus **PLAGIUSA** Bernh.

Plagiusa Bernh., Col. Rundsch. iv, 1915, p. 27.

Neosilusa Cam., Trans. Ent. Soc. Lond. 1920, p. 232.

In build very similar to *Diestota*, but differs in the structure of the tongue, the strongly bordered temples, narrower mesosternal process, sculpture, etc. Labrum formed as in *Diestota*. Mandibles rather stout, curved, pointed, the right with a tooth

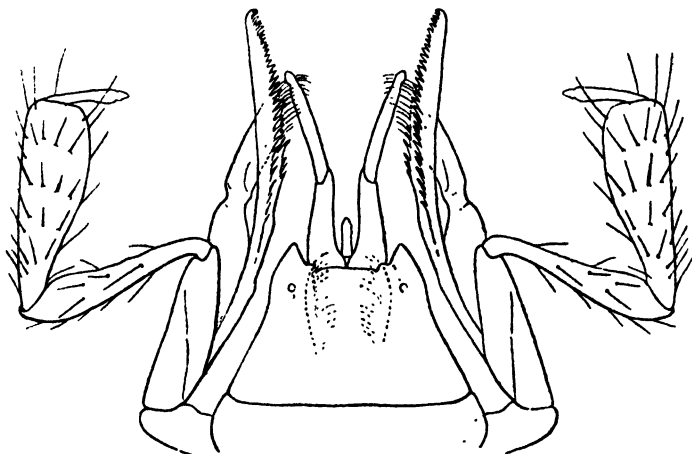


Fig. 54.—*Plagiusa leptocera*, maxillæ and labium.

at the middle of the inner border, the left simple. Maxillary palpi 4-jointed, the 1st joint small, the 2nd elongate, slightly thickened towards the apex, the 3rd a little longer than the 2nd and stouter at the apex, the 4th subulate, one-third the length of the 3rd. Inner lobe of the maxilla narrow and elongate, the inner margin of the apical third furnished with short strong teeth, the middle third set with longer pectinations; outer lobe membranous, triangular, the apex ciliate.

Mentum transverse, the sides broadly, the anterior border broadly and deeply emarginate. The tongue narrow, elongate, a little narrower at the base and slightly widened and rounded at the apex, about half as long as the 1st joint of the labial palpi. Paraglossæ distinct ciliate. Labial palpi 2-jointed, the suture between the joints indistinct, styloform, the 1st joint elongate, the 2nd fully as long as the 1st. Gular sutures distant, diverging posteriorly. The temples strongly bordered below. Pronotal epipleura plainly visible from the side. Prosternum pointed behind. Mesosternal process narrowed and rounded posteriorly, keeled, the intermediate coxæ moderately distant. Metasternal process truncate. Tarsal formula 4, 4, 5; the anterior tarsi with the first three joints rather short and subequal, the 4th as long as the three preceding together; the middle tarsi with the first three joints moderately short (but longer than those of the anterior pair), subequal, the 4th as long as the three preceding together and furnished with an appendage near the apex; the posterior with the first four joints elongate, gradually decreasing in length, the 5th nearly as long as the two preceding together and with an appendage near the apex. Tibiæ ciliate. Elytra distinctly sinuate internal to the postero-external angle. Abdomen with the first two visible dorsal segments distinctly transversely impressed at the base.

1643. *Plagiusa ceylonica*. (Plate I, fig. 6.)

Stenus ceylonica Kr.*, Linnæa Ent. xi, 1857, p. 8.

Pronomæa subrufa Motsch.*, Bull. Soc. Nat. Mosc. xxxiv, 1861, p. 149.

Silusa crassicornis Shp.*, Ann. & Mag. Nat. Hist. (6) ii, 1888, p. 374.

Reddish-brown, the head and thorax nearly dull, the elytra moderately, the abdomen more strongly shining; elytra obscurely infusate postero-externally; abdomen with the 4th (visible) segment black. Antennæ blackish, the first three joints and the 11th orange-red. Legs reddish-yellow. Length 2 mm.

Head narrower than the thorax, the eyes rather large and prominent, the post-ocular region short, closely covered with rather small, finely umbilicate punctures. Antennæ rather long and stout, the 3rd joint a little longer than the 2nd, 4th to 6th a little longer than broad, 7th to 10th transverse, scarcely increasing in width, the 11th fully as long as the two preceding together. Thorax convex, strongly transverse, the sides rounded and dilated in front, strongly retracted and emarginate behind, the posterior angles obtuse, before the base with a slight transverse impression, near the posterior angles with a small fovea, the sculpture very similar to that of

the head. Elytra convex, as long as but broader than the thorax, the puncturation as close but coarser than that of the fore-parts and not umbilicate. Abdomen with the bases of the segments rather finely and closely punctured, almost smooth elsewhere.

♂: 7th segment with a row of four keels near the posterior margin and two others more anteriorly, one on each side of the middle; 8th with a pair of minute teeth near the middle.

Ceylon. India: Dehra Dun, Siwaliks, Nilgiris. Also in Singapore, Penang, Federated Malay States, and Japan. In rotting fruit.

Genus **STENOMASTAX** Cam.

Stenomastax Cam., Jour. Fed. Mal. States Mus. xvii, 1933, p. 351.

In facies resembling *Homalota plana* Mannerh., but entirely different in the structure of the mouth-parts. Head transverse, suborbicular, temples finely bordered below; gular

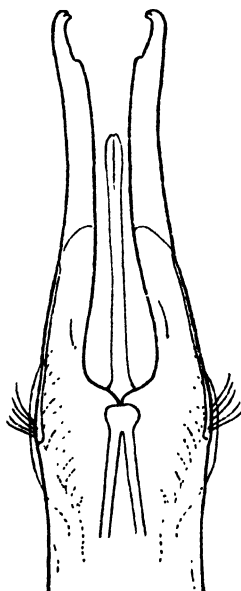


Fig. 55.—*Stenomastax nigrescens*, labium.

sutures distant, parallel. Labrum transverse, setiferous, the angles rounded, very slightly emarginate in the middle of the anterior border, the emargination furnished with two minute, nipple-shaped, membranous appendages. Mandibles small, curved, pointed, edentate. Maxilla with the outer

lobe narrow, not extending beyond the inner, its apex membranous and furnished with short hairs; inner lobe narrow, its inner border with about ten teeth, the four posterior ones much longer than the others. Maxillary palpi 4-jointed, the 1st joint very small, 2nd elongate, gradually thickened towards the apex, the 3rd as long but a good deal broader apically than the 2nd, the 4th subulate, about one-third as long as the 3rd. Mentum transverse, trapezoidal, scarcely emarginate in front. Labial palpi very long, styliform, indistinctly 2-jointed, the 2nd joint a little longer than the 1st, distinctly constricted before the apex. Tongue very narrow, elongate, split at apex †, extending quite to the middle of the 2nd joint of the labial palpi. Paraglossæ fine, ciliate, extending about half the length of the 1st joint of the palpus. Pronotal epipleura visible from the side. Prosternum keeled behind in the middle. Mesosternal process narrow, pointed, extending two-thirds of the length of the coxæ and meeting the narrow rounded apex of the anterior metasternal process, the coxæ narrowly separated throughout. All the tibiæ with two long black setæ externally. Tarsi 4, 4, 5; the basal joints all short and subequal, the anterior and middle with the 4th joint longer than the preceding together, the posterior with the 5th joint about as long as the four preceding together. Elytra feebly sinuate postero-externally. Abdomen with long black setæ at the sides and apex, the first three segments transversely impressed. The type of the genus is *Homalota nigrescens* Fauv., a species widely distributed in the Oriental region and found in rotting fruit, and thus quite different in habits from the subcortical genus *Homalota*.

To this genus must probably be referred the species described under *Mimomalota* in Tijdsch. Ent. lxxix, 1936, p. 4.

Key to the Species.

- | | |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1. Elytra black or pitchy | 2. |
| Elytra yellow or brownish-yellow, often
infusate postero-externally | 8. |
| 2. Thorax and base and apex of abdomen
red | <i>ruficollis</i> , sp. n., p. 179. |
| Thorax and abdomen black or pitchy, the
base and apex of the latter sometimes
obscurely lighter | 3. |
| 3. 4th joint of antennæ at least as long as
broad, the penultimate joints moderately
transverse | 4. |
| 4th joint of antennæ transverse, the pen-
ultimate joints fully twice as broad as
long | 6. |

† Examination of more material shows that the tongue is not simple, as originally described.

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 4. Abdomen closely punctured | 5. |
| Abdomen much less closely punctured ... | <i>soror</i> , sp. n., p. 172. |
| 5. Broader; antennæ reddish | <i>nigrescens</i> Fauv., p. 170. |
| Narrower; antennæ black | <i>differens</i> , sp. n., p. 173. |
| 6. Broader; thorax much more distinctly punctured | <i>andreuesi</i> , sp. n., p. 176. |
| Narrower; thorax more finely punctured, the punctures more confused with the ground-sculpture | 7. |
| 7. Punctuation of head distinct; thorax less closely punctured, the punctures confused with the ground-sculpture; abdomen more sparingly punctured | [p. 174. |
| Punctuation of head more confused with the ground-sculpture; thorax and abdomen more closely punctured | <i>curticornis</i> , sp. n., |
| 8. Thorax and abdomen in greater part red . | [p. 174. |
| Thorax and abdomen black or pitchy ... | <i>denticauda</i> , sp. n., |
| 9. Antennæ reddish-yellow; abdomen closely punctured | 9. |
| Antennæ except the base black; abdomen sparingly punctured | 10. |
| 10. Elytra fully as long as broad | <i>variventris</i> Kr., p. 177. |
| Elytra distinctly transverse | <i>læta</i> , sp. n., p. 178. |
| 11. Antennæ reddish; larger (2.4-3 mm.) ... | <i>longipennis</i> , sp. n., |
| Antennæ except base black | 11. [p. 175. |
| 12. Elytra finely punctured and with a few larger obsolete punctures | <i>cribrum</i> Fauv., p. 171. |
| Elytra without large punctures | 12. |
| 13. Antennæ with the penultimate joints more transverse, about twice as broad as long; 4th joint distinctly transverse | [p. 177. |
| Antennæ with the penultimate joints less transverse, the 4th joint about as long as broad | <i>tuberculicollis</i> Kr., |
| 14. Head more coarsely and deeply punctured. Head less coarsely punctured, the punctures more confused with the ground-sculpture | 13. |
| | 14. |
| | <i>platygaster</i> Kr., p. 172. |
| | <i>crenulata</i> Fauv., p. 175. |
| | [p. 176. |
| | <i>basiventris</i> , sp. n., |

1644. *Stenomastax nigrescens*.

Homalota nigrescens Fauv., Rev. d'Ent. xxiv, 1905, p. 147.

Homalota fuscipennis Cam., Trans. Ent. Soc. Lond. 1920, p. 248.

Fore-parts greasy lustrous; head and thorax black, elytra pitchy, obscurely reddish on the disc; abdomen more shining, the first three segments and the last obscurely reddish, the rest black. Antennæ reddish. Legs yellow. Length 2-2.5 mm.

Allied to *cribrum* but smaller, the antennæ longer and thinner, the elytra differently coloured. Head obsoletely foveolate on the disc, very finely and closely punctured except in front, which is nearly impunctate and slightly more shining, finely coriaceous. Antennæ with the 2nd and 3rd joints of equal length, the 4th to the 7th longer than broad, gradually decreasing in length, the 8th to the 10th scarcely transverse,

the 11th longer than the two preceding together, pointed. Thorax a little transverse, widest just before the middle, the sides slightly rounded and narrowed anteriorly, more strongly narrowed in an almost straight line to the obtuse posterior angles, the base truncate in the middle, the disc impressed in the middle line throughout; sculpture densely coriaceous, definite puncturation being scarcely discernible; the anterior angles and middle of the sides with a seta. Elytra as long as and a little broader than the thorax; square, very finely and thickly punctured, finely pubescent, humeral angles with a seta. Tibiæ each with a long seta.

Abdomen finely and rather closely punctured, more sparingly on the sixth, seventh, and eighth segments, the sides and apex setose.

♂: 8th dorsal segment truncate.

Bengal: Pusa. Ghum district. Also in Sumatra, Singapore, Malaya, Java, and Borneo.

1645. *Stenomastax cribrum*.

Thectura cribrum Fauv., Ann. Mus. Civ. Gen. xii, 1878, p. 297.

Homalota denticulata Cam., Trans. Ent. Soc. Lond. 1920, p. 250.

Greasy lustrous, head black, thorax pitchy-black; elytra yellow, the postero-external angle and posterior half of the

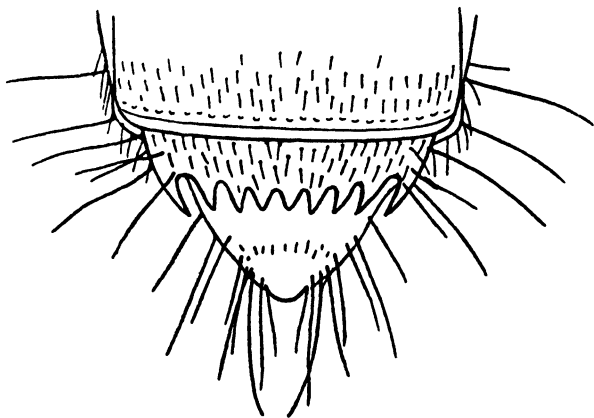


Fig. 56.—*Stenomastax cribrum*, ♂, apex of abdomen.

reflexed side infusate; abdomen pitchy, the first three segments and the last brownish-yellow. Antennæ reddish. Legs yellow. Length 2.4–3 mm.

Head broad but narrower than the thorax, strongly coriaceous and closely covered with rather small superficial

umbilicate punctures except in front. Antennæ with the 3rd joint longer than the 2nd, 4th slightly, 5th to 10th more strongly transverse, 11th as long as the two preceding together. Thorax a third broader than long, the sides gently rounded in front, straighter and retracted behind to the obtuse posterior angles, the base arcuately emarginate before the scutellum, broadly impressed along the middle, sculpture as on the head, the sides with two or three setæ. Elytra a little longer than, but as broad as, the thorax, very finely and closely punctured, extremely finely coriaceous. Abdomen closely, finely and asperately punctured on the first three segments, more sparingly elsewhere, the sides and apex with long setæ. Tibiæ each with a long seta.

♂: 8th dorsal segment with six to eight sharp triangular teeth on each side with a longer spine.

Haldwani district: Kumaun (*H. G. Champion*). Also in Singapore, Sumatra, Philippines, and New Guinea.

1646. *Stenomastax soror*, sp. n.

In colour, size, and build scarcely differing from *nigrescens*, but more opaque, the antennæ shorter and stouter, the penultimate joints distinctly transverse, head with deeper and coarser punctures, thorax a little sinuate before the posterior angles which are more prominent, elytra less shining, the puncturation less fine and with a well-marked ground-sculpture. Abdomen more finely and less closely punctured.

The 8th dorsal segment in the specimens before me shows no special features.

Ghum district: Mangpu; Rongdong Valley.

1647. *Stenomastax platygaster*.

Homalota platygaster Kr.*, Arch. Naturg. xxv, 1859, p. 33; Cam., Trans. Ent. Soc. Lond. 1921, p. 390.

Head and thorax nearly opaque, black; elytra and abdomen more shining, the former dirty yellow, infusate about the scutellum, the latter black. Antennæ blackish, the first three joints brownish-yellow. Legs yellow. Length 2.2 mm.

Parallel, somewhat depressed. Head a little narrower than the thorax, strongly coriaceous, closely covered except in front with rather small superficial, feebly umbilicate punctures, the middle of the disc with a fine longitudinal impressed line. Antennæ with the 2nd and 3rd joints scarcely differing in length, the 4th slightly, the 5th to 10th more strongly transverse, scarcely increasing in width, the 11th as

long as the two preceding together. Thorax a little broader than long, the sides with two setæ, gently rounded in front, retracted and straight behind to the obtuse posterior angles, along the middle broadly, superficially impressed, the puncturation very obsolete and confused with the strong coriaceous ground-sculpture. Elytra a little broader and longer than the thorax, very finely, rather closely punctured. Abdomen

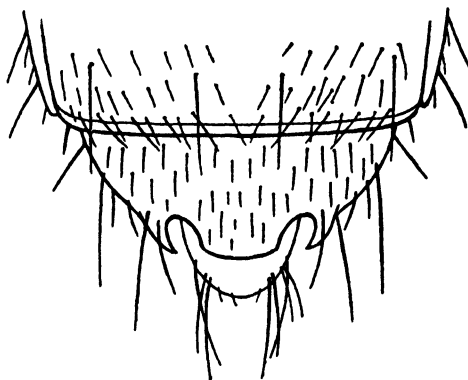


Fig. 57.—*Stenomastax platygaster*, ♂, apex of abdomen.

closely and finely punctured on the first three segments, much more sparingly behind.

♂: 8th dorsal segment with deep arcuate excision on each side, the external angles spiniform, the central part broadly rounded.

Ceylon. Bengal: Pusa. United Provinces: Dehra Dun, Siwaliks. Widely distributed in the Oriental region, also in Australia (Queensland).

1648. *Stenomastax differens*, sp. n.

Black, greasy lustrous, the abdomen scarcely more shining than the fore-parts. Antennæ black, the first two joints pitchy. Legs yellow. Length 2.2 mm.

In size and build scarcely differing from *platygaster*, but distinct in the black elytra, much longer antennæ, the penultimate joints only slightly transverse, the intermediate as long as broad, finer, more obsolete puncturation of the head, much closer, rougher puncturation of the elytra and much finer and much closer puncturation of the abdomen, the posterior segments being closely punctured though somewhat less closely than on the anterior ones. The specimens before me show no special modification of the 8th dorsal segment.

Ghum district.

1649. *Stenomastax curticornis*, sp. n.

Greasy lustrous, black, the elytra pitchy-black, the first three segments of the abdomen obscurely reddish, the posterior half of the 7th segment and whole of the 8th reddish-yellow. Antennæ blackish, the first three joints brownish-yellow. Legs yellow. Length 2 mm.

Differs from *platygaster* in the colour of the elytra, shorter and stouter antennæ, the penultimate joints more transverse, the puncturation of the head a little coarser and deeper, and the finer and less close puncturation of the abdomen. From *differens*, apart from the colour of the abdomen, it differs in the short, stout antennæ, more coarsely and deeply punctured head, and much less close puncturation of the abdomen.

♂(?): 8th dorsal segment feebly and broadly emarginate, its surface with several small granules.

Ghum district: Tiger Hill, alt. 8000–10,000 feet.

1650. *Stenomastax denticauda*, sp. n.

Greasy lustrous, black. Antennæ blackish, the first three joints yellowish-brown. Legs yellow. Length 1.75 mm.

Smaller and narrower than *curticornis*, the antennæ similarly constructed, the head more finely punctured, the puncturation

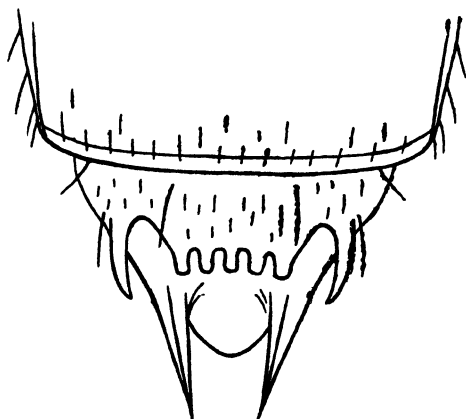


Fig. 58.—*Stenomastax denticauda*, ♂, apex of abdomen.

of the thorax closer and more evident, less confused with the ground-sculpture, the abdomen differently coloured and a little more closely punctured.

♂: 8th dorsal segment with four or five little teeth on the posterior margin and a more slender, curved spine on each side.

Ghum district: Mangpu.

1651. *Stenomastax longipennis*, sp. n.

Fore-parts rather dull; head black, thorax pitchy-black, elytra brownish-yellow, scarcely infusate behind; abdomen more shining black, pitchy at the base. Antennæ black, the first three joints brownish-yellow. Legs yellow. Length 2.75 mm.

Narrower than *platygaster*, with longer, more obscurely coloured elytra, more transverse penultimate antennal joints, etc. Head with sculpture similar to that of *platygaster* and with a fine impressed median line, thorax a little longer and narrower, with the puncturation rather more distinct, the median impression shorter; elytra as long as broad, a half longer than the thorax, finely and closely punctured, very finely coriaceous. Abdomen rather less closely punctured on the first three segments than in *platygaster*, the punctures asperate as in that species, very sparingly punctured on the others.

♂: 7th dorsal segment with a little tubercle near posterior margin in the middle; 8th with broad arcuate emargination.

Dehra Dun district: Bakota.

1652. *Stenomastax crenulata*.

Homalota crenulata Fauv.*, Rev. d'Ent. xxiii, 1904, p. 65.

Very closely allied to *platygaster*, of the same colour and lustre, but the antennæ shorter and stouter, the penultimate

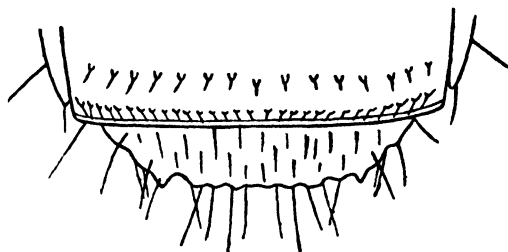


Fig. 59.—*Stenomastax crenulata*, ♂, apex of abdomen.

joints more transverse, punctures of the head a little larger and less superficial, the puncturation of the elytra a little closer and less fine. Length 2.2 mm.

♂: 7th dorsal segment with four obsolete keels (sometimes absent); 8th broadly rounded and finely crenulate, on each side with either a deep arcuate emargination with a little spine externally or with a shallow emargination and a little tooth externally.

Nilgiri Hills.

1653. *Stenomastax andrewesi*, sp. n.

Head, thorax, and elytra nearly opaque, the head and thorax black, the elytra pitchy-black; abdomen more shining reddish-brown, the 6th segment and base of the 7th black. Antennæ black, the first three joints brownish-yellow. Legs reddish-yellow. Length 2.2 mm.

Near *crenulata*, but at once distinguished by the colour of the elytra and abdomen, the antennæ also are stouter, the sculpture of the elytra, although fine, is distinctly rough, in other respects like *crenulata*.

♂: 8th dorsal segment broadly rounded in the middle, on each side with a narrow deep excision bounded externally by a long slender spine.

Nilgiri Hills.

1654. *Stenomastax basiventris*, sp. n.

Depressed, parallel, black, greasy lustrous, the elytra brownish-testaceous, the base and sides infusate, the abdomen

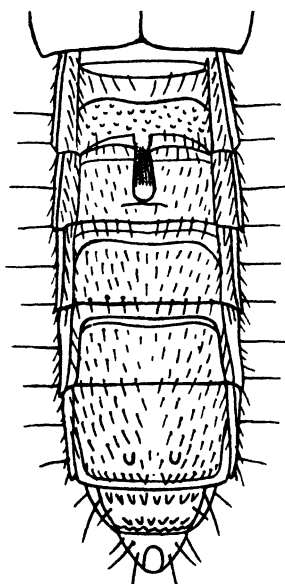


Fig. 60.—*Stenomastax basiventris*, ♂, abdomen.

more shining. Antennæ black, the first three joints brown. Legs testaceous. Length 2.3 mm.

Differs from *crenulata* in the less coarsely and less deeply punctured head, the punctures more confused with the

ground-sculpture, the more finely and more closely punctured elytra, and the ♂ characters.

♂ : 3rd dorsal segment in the middle of the posterior margin with a long process narrow at the base and gradually widening towards apex, reaching the level of the posterior margin of the 4th segment and sulcate throughout, and sometimes with a shorter spine on each side near the lateral margin ; 7th with three tubercles placed transversely a little in front of the posterior margin ; 8th with two transverse rows each of four tubercles, those of the posterior row considerably larger, the posterior margin nearly truncate.

Siwaliks : Thano, Dehra Dun.

1655. *Stenomastax tuberculicollis*.

Homalota tuberculicollis Kr.*, Arch. Naturg. xxv, 1859, p. 33 ;
Cam., Trans. Ent. Soc. Lond. 1921, p. 390.

Head and thorax black, nearly opaque ; elytra and abdomen more shining, the former dirty yellow, with the scutellary region, reflexed sides, and postero-external angles infusate. Antennæ black, the first three joints brownish-yellow. Legs yellow. Length 1.75 mm.

Near *platygaster* but smaller, of similar lustre and ground-sculpture but with differently coloured elytra and uniformly punctured abdomen. Head smaller, more closely and finely punctured, the punctures not umbilicate and more confused with the ground-sculpture. Antennæ as in *platygaster* ; thorax with the median impression attenuated in front, elytra more roughly punctured and with a few larger, superficial obsolete punctures, the abdomen closely, finely and asperately punctured throughout.

♂ : 7th dorsal segment in the middle posteriorly with two oblique keels meeting behind to form a V ; 8th broadly rounded behind. Thorax with the posterior margin broadly and slightly produced behind in the middle and truncate.

Ceylon. Also in Singapore, Penang, and Perak.

1656. *Stenomastax variventris*.

Homalota variventris Kr.*, Arch. Naturg. xxv, 1859, p. 34 ;
Cam., Trans. Ent. Soc. Lond. 1921, p. 391.

Homalota pectinalis Fauv., Ann. Mus. Civ. Gen. xii, 1878, p. 298 ;
id., Mitt. Nat. Mus. Hamb. xxii, 1905, p. 86.

A little shining, reddish-brown, the elytra reddish-yellow, scarcely infusate at the scutellary region and postero-externally, the 5th and 6th abdominal segments blackish. Antennæ reddish-yellow. Legs yellow. Length 1.2-1.75 mm.

In size and build very similar to *tuberculicollis*. Head

distinctly narrower than the thorax, coriaceous, closely covered with fine, superficial umbilicate punctures. Antennæ with the 2nd and 3rd joints of equal length, 4th about as long as broad, 5th to 10th slightly transverse. Thorax about a half broader than long, the sides gently rounded in front, straighter and more retracted behind, the posterior angles obtuse, along the middle broadly impressed, coriaceous, finely and closely punctured, the punctures obsolete and confused with the ground-sculpture. Elytra nearly a half longer and a little broader than the thorax, closely and extremely finely punctured. Abdomen closely, finely and roughly punctured on the first three segments, more sparingly towards the apex.

♂: 8th dorsal segment without special characters.

Ceylon. Also in Singapore, Penang, Malaya, New Guinea, and Mauritius.

1657. *Stenomastax læta*, sp. n.

Fore-parts greasy lustrous, the abdomen more shining. Head black or reddish-brown, thorax and abdomen bright

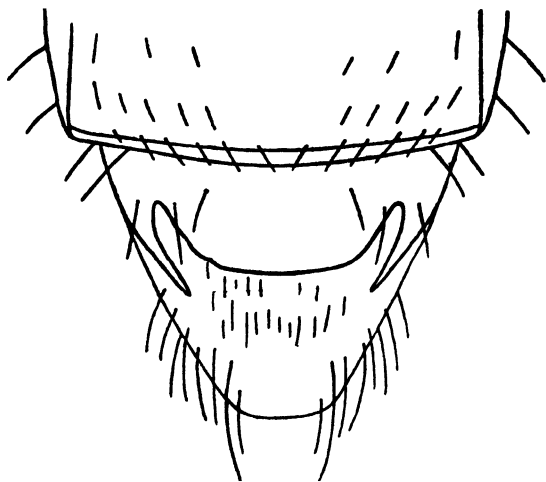


Fig. 61.—*Stenomastax læta*, ♂, apex of abdomen.

yellowish-red, the 5th, 6th, and base of the 7th segments black; elytra brownish-yellow. Antennæ blackish, the first two joints yellow. Legs yellow. Length 2 mm.

More brightly coloured than *variventris*, the antennæ shorter and darker, with the penultimate joints much more transverse, punctures of the head larger, less close, less confused with the ground-sculpture, thorax, and elytra less closely and less

finely punctured, abdomen much less closely punctured on the first three segments, almost impunctate behind.

♂: 8th dorsal segment truncate, on each side with a long slender spine separated by a deep narrow emargination from the central truncate part.

Siwaliks: Timli. Nilgiri Hills.

1658. *Stenomastax ruficollis*, sp. n.

Greasy lustrous; head black, elytra pitchy-black, thorax and abdomen yellowish-red, the 5th, 6th, and base of 7th segments black. Antennæ blackish, the first three joints reddish. Legs yellow. Length 2.3 mm.

Head a little narrower than the thorax, coriaceous, with close, superficial, umbilicate punctures, the vertex with obsolete impression. Antennæ short and stout, the 4th to 10th joints transverse, the penultimate strongly. Thorax a third broader than long, broadly impressed along the middle, strongly coriaceous, obsoletely punctured. Elytra a little longer than the thorax, finely and closely punctured. Abdomen finely, not very closely punctured on the anterior segments, almost impunctate behind.

♂: 8th dorsal segment truncate and finely crenulate, on each side with a slender incurved spine separated by a deep narrow emargination from the median part.

Ghum district: Mangpu.

Genus **SILUSA** Er.

Silusa Er., Kaf. Mark Brandenb. i, 1837-39, p. 377; id., Gen. Spec. Staph. 1839-40, p. 205; Redtb., Faun. Austr. ed. i, 1849, p. 675, ed., ii, 1858, p. 163, ed. iii, 1874, p. 132; Lacord., Gen. Col. ii, 1854, p. 45; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 5; Kraatz, Linn. Ent. xi, 1857, p. 7; Thoms., Skand. Col. ii, 1860, p. 280; Fauv., Ann. Soc. Ent. Fr. 1862, p. 89; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. v, 1871, p. 146; Olliff, Proc. Linn. Soc. N. S. Wales, (2) i, 1886, p. 449; Fowler, Col. Brit. Isl. ii, 1888, p. 163; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 288; Everts, Col. Neerl. i, 1898, p. 237; Reitt., Faun. Germ. ii, 1909, p. 78; Johansen, Danmarks Rovbiller, 1914, p. 255, fig. 92; Fenyès, Gen. Ins. 173 A, 1918, p. 81; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 711; Portevin, Encycl. Ent. A, xii, 1920, i, p. 299; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 271.

Subgen. *Stenusa* Kr., Naturg. Ins. Deutsch. Col. ii, 1856-58, p. 47; id., Berl. Ent. Zeitschr. xii, 1868, p. 339; Redtb., Faun. Aust. ed. ii, 1858, p. 164, ed. iii, 1874, p. 132; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 289; Reitt., Faun. Germ. ii, 1909, p. 79; Fenyès, Gen. Ins. 173 A, 1918, p. 82; Portevin, Encycl. Ent. A, xii, 1920, i, p. 299.

Elongate, moderately convex species. Head a good deal

narrower than the thorax, its basal part ensconced therein, the post-ocular region feebly retracted, the temples strongly bordered below. Labrum transverse, the anterior margin truncate or slightly emarginate, the anterior angles rounded. Mandibles moderately long, curved and pointed, the right with a small tooth about the middle of the inner border. Maxillæ with the outer lobe narrow, its apex ciliate, the inner narrow pointed, before the middle with fine short closely set spines, at the middle with longer slightly curved ones. Maxillary palpi 4-jointed, the 1st joint small, 2nd elongate, slightly thickened towards apex, the 3rd as long or longer than the 2nd and more thickened apically, 4th subulate, fully half as long as the 2nd (*Stenusa*) or but little shorter (*Silusa*, s. str.). Mentum transverse, trapeziform, the anterior border slightly (*Stenusa*) or rather deeply emarginate (*Silusa*, s. str.). Tongue narrow, simple, narrower towards apex and reaching the level of the middle of the 1st joint of the labial palpi (*Silusa*, s. str.) or almost to its apex (*Stenusa*). Labial palpi long, styliform, more or less indistinctly 2-jointed, extending a little beyond the apex of the mandibles, the two joints of almost equal length. Paraglossæ feeble. Thorax transverse, the pronotal epipleura visible from the side, the posterior angles distinct (*Stenusa*) or more or less rounded (*Silusa*, s. str.). Prosternum rather short, its anterior part keeled. Mesosternum simple, its process long, pointed, extending nearly the whole length of the coxæ, these moderately separated. Metasternal process short, truncate, meeting the mesosternal. Elytra distinctly emarginate internal to the postero-external angle. Legs rather slender, tibiæ ciliate. Tarsi 4, 4, 5; the claws feebly curved; the anterior and middle with the first three joints short and subequal, together as long as the 4th, posterior with the first four joints of about equal length, short or rather short, the 5th about as long as the 2nd, 3rd, and 4th together. Abdomen with the first three visible segments strongly transversely impressed at their bases. The genus is widely distributed, and its members are found in fungus and under the bark of dead trees.

The genus has been subdivided as indicated above and in the following key, but amongst the tropical species it is doubtful if the divisions can be maintained.

Key to the Subgenera.

- | | |
|----------------------------------------------------------------------------------------------------|----------------------------------|
| Puncturation of head fine; posterior angles of the thorax more or less rounded | <i>SILUSA</i> , s. str., p. 182. |
| Puncturation of head more or less umbilicate; posterior angles of thorax distinct, obtuse. | <i>STENUSA</i> Kr., p. 181. |

Only one of our species is referable to *Stenusa*.

1659. *Silusa (Stenusa) distincta*, sp. n.

Head and thorax dull, the former black, the latter more pitchy, elytra and abdomen (especially the latter) shining, reddish-brown, the 4th segment blackish. Antennæ with the first three joints and apex of the last reddish-yellow. Legs reddish-yellow. Length 3 mm.

Head narrower than the thorax, the post-ocular region straight and retracted, coriaceous, very closely covered with moderately large umbilicate punctures. Antennæ with the 4th and 5th joints about as long as broad, the 6th to 10th transverse, the 11th fully as long as the two preceding together. Thorax about a half broader than long, the sides rounded in

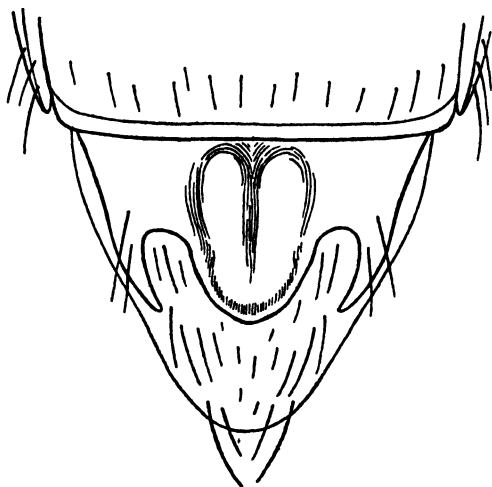


Fig. 62.—*Silusa (Stenusa) distincta*, ♂, apex of abdomen.

front, straight and retracted behind to the small but prominent posterior angles ; before the middle of the base with a small transverse impression, very closely covered with umbilicate punctures, smaller than those on the head. Elytra a little broader and a third longer than the thorax, rather coarsely and not very closely punctured. Abdomen finely, moderately closely punctured on the first three segments, much more sparingly behind.

♂ : 8th dorsal segment on each side with a curved spine, the central part narrowed and rounded, produced a little beyond the level of the apex of the spines and separated from them by a deep arcuate excision.

Ghum district : Rongdong Valley.

Key to the Species of Silusa, s. str.

1. Entirely black ; femora pitchy *nigra*, sp. n., p. 183.
 Otherwise coloured ; legs reddish-yellow 2.
2. Thorax dark, more finely punctured *indica*, sp. n., p. 182.
 Thorax yellowish-red, with fine granular
 or asperate sculpture *infuscata*, sp. n., p. 182.

1660. *Silusa* (s. str.) *indica*, sp. n.

Shining pitchy-black, the sides and base of the thorax narrowly reddish, the base, suture, extreme lateral margins and apex of the elytra, and posterior margin of the first two abdominal segments reddish. Antennæ reddish-testaceous, the last joint infusate. Legs reddish-testaceous. Length 3.3 mm.

In build similar to *S. rubiginosa* Er., differently coloured, more shining, and with shorter, stouter antennæ and much finer puncturation of the thorax and elytra. Head narrower than the thorax, transverse, eyes large, temples short, finely and rather sparingly punctured. Antennæ with the 2nd and 3rd joints equal, the 4th scarcely longer than broad, 5th to 10th transverse, the penultimate fully twice as broad as long, the 11th conical, longer than the two preceding together. Thorax strongly transverse, the sides gently rounded, the posterior angles obtusely rounded, finely, roughly, and more closely punctured than the head. Elytra as long as but a little broader than the thorax, transverse, closely, rather finely but roughly punctured. Abdomen finely and closely punctured on the anterior segments, gradually more sparing behind.

United Provinces : Dehra Dun.

1661. *Silusa* (s. str.) *infuscata*, sp. n.

Moderately shining ; head black, thorax pitchy-brown, the side margins and base narrowly reddish ; elytra somewhat variable. Abdomen pitchy black, the posterior margins of the segments narrowly reddish. Antennæ pitchy, the first three joints testaceous. Legs reddish-testaceous. Length 2.75-3 mm.

Var. α . Elytra reddish-yellow, a little infusate postero-externally.

Var. β . Elytra entirely pitchy, or with the base and apex narrowly reddish-yellow.

In build very similar to *rubiginosa* Er., but differently coloured, the punctures of the head a little larger, less superficial, the antennæ shorter, sculpture of the thorax granular. Head a good deal narrower than the thorax, smooth in front, elsewhere moderately closely covered with small, superficial,

umbilicate punctures ; ground-sculpture very feeble. Antennæ with 2nd and 3rd joints of equal length, the 4th square, the 5th to 10th transverse, the penultimate fully twice as broad as long. Thorax transverse (10 : 7), the sides rounded in front, straight and retracted behind to the obtuse posterior angles, lightly transversely impressed before the base, the sculpture close, fine, and granular. Elytra a little broader and longer (10 : 7) than the thorax, closely, moderately finely, rather roughly punctured. Abdomen moderately finely, closely punctured, more finely and sparingly on the 4th and 5th segments. Pubescence throughout rather coarse and yellow.

♂ : 8th dorsal segment with a tooth on each side, the margin between with six smaller teeth.

United Provinces : Dehra Dun.

1662. *Silusa* (s. str.) *nigra*, sp. n.

Entirely black, moderately shining. Antennæ black, the first two joints brownish-yellow. Femora pitchy, tibiæ and tarsi reddish-yellow. Length 4.5 mm.

In build scarcely differing from *infuscata*, but the antennæ not quite so stout, the head similarly punctured, but the thorax

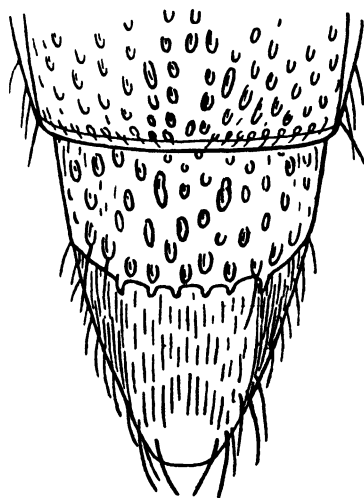


Fig. 63.—*Silusa* (s. str.) *nigra*, ♂, apex of abdomen.

much more finely, less closely and more obsoletely punctured, the elytra more finely and a little less closely, the abdomen more finely, punctured.

♂: 7th dorsal segment closely covered with small granules on the posterior half; 8th with similar granules, the posterior border almost truncate and furnished with six small teeth.

Kashmir: Gulmarg.

TROPOSILUSA, gen. n.

In build much resembling *Silusa rubiginosa* Er., but differs in the structure of the tongue etc. Head narrower than the thorax, the neck concealed, eyes moderate, temples entirely bordered, more strongly behind. Outer lobe of maxilla broader and shorter than the inner, ciliate at apex, the inner narrow, corneous, at the apex with eight or nine teeth. Maxillary palpi with the 2nd joint a little thickened towards apex, 3rd only slightly longer and scarcely thicker, 4th narrow and subulate, as long as the 3rd. Mentum transverse, trapezoidal,

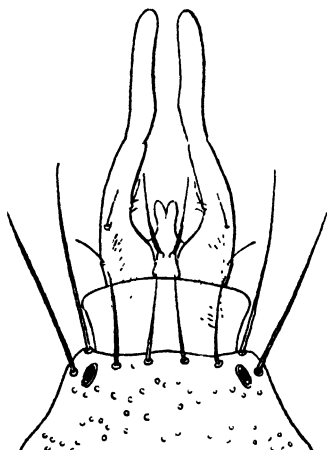


Fig. 64.—*Troposilusa armata*, labium.

feebly and broadly emarginate in front. Tongue narrow, about half as long as the 1st joint of the labial palpi, a little widened towards the apex and split beyond the middle into two narrow lobes with rounded apices. Labial palpi elongate styliform, 2-jointed, the joints of equal length. Paraglossæ slender, ciliate, not extending beyond the apex of the tongue. Pronotal epipleura visible from the side. Mesosternum simple, its process bluntly pointed and extending two-thirds the length of the coxæ and separated from the metasternum by a short intersternal piece, the coxæ moderately separated. Legs moderate, the tibiæ ciliate and with two longer setæ. Tarsi 4, 4, 5; the anterior with the first three joints short,

subequal, 4th longer than the preceding together; middle with the 1st and 2nd joints short, subequal, 3rd a little longer than the 2nd, 4th almost as long as the preceding together; posterior with the 1st and 2nd joints short, subequal, 3rd and 4th a little longer, subequal, 5th as long as the four preceding together. Claws simple, lightly curved. Elytra not emarginate postero-externally. Abdomen slightly and gradually narrowed towards the apex, the first two visible segments feebly transversely impressed at the base.

1663. *Troposilusa armata*, sp. n. (Plate I, fig. 9.)

Not very shining, black, the elytra pitchy-black. Antennæ black, the first two joints brownish-yellow. Legs reddish-yellow, the femora a little infusate. Length 3.3 mm.

Head narrower than the thorax, transverse, the disc with a pair of small impressions, less distinct in the ♀, finely, rather closely punctured, distinctly coriaceous. Antennæ moderate, the 3rd joint slightly longer than the 2nd, 4th to 7th about as long as broad, 8th to 10th moderately transverse, 11th as long as the 9th and 10th together. Thorax transverse (6:4.5), the sides evenly rounded and with two or three setæ, a little more retracted behind, the posterior angles rounded, in the posterior half with a scarcely perceptible impressed line, finely, closely and rather roughly punctured, distinctly coriaceous. Elytra broader and longer (6:4.5) than the thorax, the sides with two or three setæ, closely, less finely and more roughly punctured, the ground-sculpture much less distinct. Abdomen closely, finely and distinctly roughly punctured, less closely on the 6th and 7th segments. Pubescence on the fore-parts fine, moderately close, on the abdomen longer, stiffer and coarser.

♂: 1st ventral segment on each side with a narrow, flattened, pointed lamella directed backwards and slightly outwards along the side of the abdomen to the level of the middle of the 4th dorsal segment, its apex inverted; 8th with a median keel, the posterior margin nearly straight and irregularly crenulate, the surface with small elongate granules.

Darjeeling: Senchal River. Bred from logs of *Juglans regia*.

Genus **LINOGLOSSA** Kr.

Linoglossa Kr., Arch. Naturg. xxv, 1859, p. 10; Eichelb., Kat. Staph.-Gatt. 1909, p. 209; Fenyès, Gen. Ins. 173 A, 1918, p. 80; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 711.

In facies somewhat resembling *Tachyusa* Er., but more like *Gænonica thoracica* Motsch. Elongate, parallel, the head exserted, constricted at the base, the eyes large, the temples

finely and completely bordered below. Gular sutures widely separated, parallel. Labrum transverse, rounded in front. Mandibles stout, curved, pointed, the right with a small sharp tooth about the middle. Maxillæ narrow, the inner lobe with long spines internally, the outer densely ciliate at the apex. Mentum trapezoidal, broadly emarginate in front. Tongue very long, slender, scarcely widened in the middle, scarcely perceptibly bifid at extreme apex, and extending beyond the apex of the 1st joint of the labial palpi. Paraglossæ distinct, long. Labial palpi 2-jointed, styliform, diverging, the 1st joint a little curved inwards at the base, the 2nd a good deal longer than the 1st. Mesosternal process acute, extending half the length of the coxæ, these narrowly separated. Metasternal process produced, rounded at apex and separated from the mesosternal process by a small intersternal piece. Scutellum triangular. Elytra distinctly emarginate internal to the postero-external angle. Legs slender, the tibiæ without setæ. Tarsi 4, 4, 5; the anterior and middle with the first three joints, the posterior with the first four joints, about equal between themselves. Abdomen with the first three (visible) dorsal segments strongly transversely impressed at the bases, the first three ventral segments also transversely impressed.

1664. *Linoglossa angustata*.

Autalia angustata Motsch.*, Bull. Mosc. xxxi, 1858, iii, p. 261; Cam., E. M. M. lxix, 1933, p. 219.

Linoglossa bifoveolata Kr.*, Arch. Naturg. xxv, 1859, p. 11.

Parallel, subdepressed, rather shining, ferruginous-red. Antennæ reddish. Legs reddish-yellow. Length 3.5 mm.

Head as broad as the thorax, the eyes large, the post-ocular region gently retracted to the neck, the front with a small fovea, the puncturation close, superficial, and indistinctly umbilicate. Antennæ slender, the 3rd joint longer than the 2nd, 2nd and 4th subequal, longer than broad, the following gradually decreasing in length, the penultimate scarcely broader than long, the 11th oblong-ovate. Thorax slightly transverse, the sides rounded and dilated in front, retracted and a little sinuate behind to the obtuse posterior angles, before the base on each side with a deep oblong impression, separated from each other by a keel; the puncturation on the disc is close and fine, but becomes effaced towards the sides. Elytra broader and about a third longer than the thorax, for about the inner half the puncturation is extremely fine and sparing, but towards the sides the punctures become larger and at the shoulders and lateral margins are much closer and rugose. Abdomen a little narrowed at the base, then parallel, impunctate in the basal impressions, elsewhere finely, rather closely and asperately punctured.

♂(?): 8th dorsal segment produced as a slender median spine.

♀(?): 8th dorsal segment in the middle of the posterior margin with a very small blunt tooth, and close to it on each side with a larger triangular one, the lateral margin itself produced as a rather long stout spine.

Motschoulsky's types are labelled "Ind. or.," that of Kraatz "Ind. Port. (*Helper*)."

Genus **PLACUSA** Er.

Placusa Er., Kaf. Mark Brand. i, 1837-39, p. 370; id., Gen. Spec. Staph. 1839-40, p. 194; Redtb., Faun. Aust. ed. i, 1849, p. 673, ed. ii, 1858, p. 162, ed. iii, 1874, p. 174; Lacord., Gen. Col. x, 1854, p. 45; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 7; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 329; Thoms., Skand. Col. iii, 1861, p. 101; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. v, 1871, p. 103; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 665; Olliff, Proc. Linn. Soc. N. S. Wales, (2) i, 1886, p. 451; Fowler, Col. Brit. Isl. ii, 1888, p. 160; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 294; Everts, Col. Neerl. i, 1898, p. 239; Reitt., Faun. Germ. ii, 1909, p. 82; Blatchley, Col. Indiana, i, 1910, p. 341; Johansen, Danmarks Rovbiller, 1914, p. 259; Fenyès, Gen. Ins. 173 A, 1918, p. 89; Cameron, Trans. Ent. Soc. Lond. 1920, pp. 357, 387; Portevin, Encycl. Ent. A, xii, 1929, i, p. 304; Scheerpeltz, Tierwelt Mitteleur. v, 1930, p. 71.

Subgen. *Calpusa* Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. v, 1871, p. 108; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 297; Reitt., Faun. Germ. ii, 1909, p. 83; Fenyès, Gen. Ins. 173 A, 1918, p. 91.

BIOLOGY.—Perris, Ann. Soc. Ent. Fr. (3) i, 1853, p. 565, tab. 17, fig. 20-25; id., Hist. Ins. Pin. Marit. 1863, p. 43, figs. 20-25; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 330; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 665; Rupertsberger, Biol. Kaf. Eur. 1880, p. 116; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 295; Xambeau, Échange, xxvi, 1910, p. 24.

Somewhat depressed species with fine depressed pubescence, the head much narrower than the thorax, the temples bordered below. Antennæ usually short, 11-jointed, the 3rd joint shorter than the 2nd; clypeus separated from the front by a fine transverse ridge between the antennal tubercles. Labrum strongly transverse, the sides and anterior angles rounded, truncate or a little produced in the middle. Mandibles short and stout, edentate. Maxillary palpi rather slender, the 1st joint small, 2nd moderately long, slightly thickened towards apex, 3rd a little longer and a little more thickened at apex, 4th subulate, about half as long as the 3rd. Outer lobe of maxilla narrow, pointed and ciliate at apex; inner lobe pointed, towards the apex with several curved teeth, closely placed. Mentum transverse, trapezoidal, truncate or feebly emarginate in front. Tongue very short and broad, its sides and apex rounded. Labial palpi short, the 1st joint short and stout, the 2nd narrower and yet shorter. Thorax

transverse, as broad as or narrower than the elytra, the sides rounded and more retracted towards the front or equally retracted in front and behind, the pronotal epipleura not visible from the side. Prosternum short, keeled; pronotal epipleura reflexed, broad. Mesosternum simple, with short acute process extending about half the length of the coxæ; metasternal process briefly rounded, scarcely produced between the coxæ, these narrowly separated. Tibiæ finely ciliate. Tarsi slender, 4, 4, 5; the anterior with the first three joints rather short and subequal, the 4th as long as the preceding together; middle with the 1st joint distinctly longer than the 2nd, 2nd and 3rd rather long, subequal, 4th longer than the 2nd and 3rd together; posterior with the 1st joint elongate, almost as long as the three following together, these gradually decreasing in length, the 5th longer than the 3rd and 4th together. Elytra not or but feebly emarginate. Abdomen more or less narrowed behind, the first three visible segments feebly transversely impressed at the bases. The species are found beneath the bark of decaying trees. Two subgenera are distinguished as follows:—

Thorax as broad or nearly as broad as the elytra, the sides more retracted towards the front
 Thorax distinctly narrower than the elytra, the sides about equally retracted in front and behind

PLACUSA, s. str., p. 189.

[Key, p. 196.

CALPUSA Muls. et

Key to the Species of the Subgenus Placusa, s. str.

- | | |
|---------------------------------------------------------------------------------------------|-----------------------------------------|
| 1. Penultimate joints of the antennæ strongly transverse | 2. |
| Penultimate joints of antennæ slightly transverse | 11. |
| 2. Elytra entirely black or pitchy | 3. |
| Elytra in part yellowish or brownish-yellow | 5. |
| 3. Larger (3 mm.) | <i>funebria</i> , sp. n., p. 193. |
| Smaller (1.75–2 mm.) | 4. |
| 4. Larger (2 mm.), less shining; head and thorax much more strongly punctured. | [p. 191. |
| Smaller (1.75 mm.), more shining; head and thorax more finely punctured. | <i>quadrispinosa</i> , sp. n., [p. 195. |
| 5. Larger (length more than 2 mm.) | <i>subnitida</i> , sp. n., |
| Smaller (1.5–1.75 mm.) | 6. |
| 6. Head and thorax dull | 9. |
| Head and thorax somewhat shining | 7. |
| 7. Larger (3.5 mm.); antennæ stouter; sculpture of thorax closer | 8. |
| Smaller (3 mm.); antennæ less stout; sculpture of thorax not so close | [p. 191. |
| 8. Abdomen dull, very finely and densely punctured and pubescent; more robust species | <i>himalayica</i> , sp. n., [p. 192. |
| | <i>simlaensis</i> , sp. n., [p. 189. |
| | <i>tachyporoides</i> Waltl, |

- Abdomen somewhat shining; puncturation and pubescence less dense; narrower species [p. 190.
sexdentata, sp. n.,
9. Subopaque species; elytra distinctly longer than the thorax *spinigera* Kr., p. 195.
 Rather shining; elytra slightly longer than the thorax 10.
10. Antennæ much stouter; sculpture of foreparts coarser [p. 196.
inconspicua, sp. n.,
 Antennæ more slender; sculpture of foreparts much finer *pygmæa* Kr., p. 194.
 11. Dark species; thorax more transverse ... *gracilicornis*, sp. n.,
 More brightly coloured species; thorax less transverse [p. 190.
acuminata Kr., p. 193.

1665. *Placusa* (s. str.) *tachyporoides*.

Placusa tachyporoides Waltl, Isis, (iv) 1838, p. 268; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 296; Everts, Col. Neerl. i, 1898, p. 240; Reitter, Faun. Germ. ii, 1909, p. 83; Kleine, Ent. Blatt. (Berlin) v, 1909, p. 76; Johansen, Danmarks Rovbiller, 1914, p. 262; Saalas, Fichtenkafer Finnlands, i (Ann. Acad. Sci. Fenn. viii), 1917, pp. 347, 348; Everts, Col. Neerl. iii, 1922, p. 105.

Placusa alutaria Woll., Cat. Col. Ins. Mader. 1857, p. 177.

Placusa denticulata Shp., E. M. M. vi, 1870, p. 281; Rye, Ent. Ann. 1871, p. 31; Mars., Abeille, viii, 1871, p. 255; Fowler, Col. Brit. Isl. ii, 1888, p. 161.

Placusa infima Er., Gen. Spec. Staph. 1839-40, p. 196; Redtb., Faun. Austr. ed. i, 1849, p. 823, ed. ii, 1858, p. 163, ed. iii, 1874, p. 174; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 333; Thoms., Skand. Col. iii, 1861, p. 102; Muls. et Rey, Nat. Col. Fr. Brév. Aléoch. v, 1871, p. 120; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 668; Fowler, Col. Brit. Isl. ii, 1888, p. 161, tab. 49, fig. 12; Portevin, Encycl. Ent. A, xii, 1929, i, p. 305, fig. 297.

Placusa petulans Cas., Mem. Col. ii, 1911, p. 188.

Placusa umbratilis Woll., Ins. Mader. 1854, p. 554.

Greasy lustrous, black, the elytra yellowish-brown or brownish-yellow, a little infusate about the scutellum and at the sides. Antennæ black, the first one or two joints yellowish-brown. Legs reddish-yellow. Length 2-2.3 mm.

Head closely, finely and roughly punctured, finely coriaceous. Antennæ with the 2nd and 3rd joints subequal, the 4th to 10th transverse, gradually increasing in width, the 11th stout, shorter than the two preceding together. Thorax transverse (5:3), convex; the sides rounded, more retracted in front, the posterior angles rounded, finely, closely and roughly punctured, rather more closely than the head, finely coriaceous. Elytra a third longer and a little broader than the thorax, the sculpture a little stronger but of similar character. Abdomen narrowed behind, extremely finely and densely punctured and pubescent.

♂: 8th dorsal segment with two little tubercles at the middle; the posterior margin on each side with a short dentiform spine,

in the middle with three small equidistant teeth, of which the median is slightly stouter.

Chakrata district: Kanasar, alt. 7000 feet. Mussooree district, alt. 6000-7000 feet; Ghum. Also in Europe, Siberia, Japan, Madeira, and N. America.

1666. *Placusa* (s. str.) *gracilicornis*, sp. n.

Pitchy-black, slightly shining. Antennæ black, the 1st joint yellowish. Legs yellow. Length 2.5 mm.

In build very similar to *tachyporoides* but narrower and with the elytra entirely dark, the antennæ much longer and thinner,

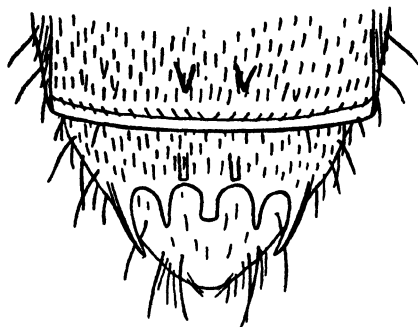


Fig. 65.—*Placusa* (s. str.) *gracilicornis*, ♂, apex of abdomen.

the intermediate joints as long as broad, the penultimate only very slightly transverse, the abdomen less densely punctured and pubescent.

♂: 7th dorsal segment with a pair of small tubercles behind the middle; 8th on each side with moderately long incurved spine, the margin between with three straight spines of equal length and a pair of narrow parallel keels in the middle near the posterior margin.

Simla Hills: Gahan, alt. 7000 feet. Ghum.

1667. *Placusa* (s. str.) *sexdentata*, sp. n.

Pitchy-black, slightly shining, elytra brownish-testaceous, the base and sides infuscate. First joint of antennæ brownish-testaceous. Legs testaceous. Length 2.5 mm.

Colour, build and lustre of *tachyporoides*, but much narrower, the sculpture of the thorax and elytra less close, that of the abdomen less dense. The antennæ are similarly constructed but not so stout. From *gracilicornis* it is distinguished by its more slender build, lighter elytra, the strongly transverse penultimate joints of the antennæ, and the stout, oval 11th joint.

♂: 8th dorsal segment on either side with a curved spine, in the middle with four shorter straight spines.

Chakrata District : Kanasar, alt. 7000 feet. Mussooree.

1668. *Placusa* (s. str.) *quadrispinosa*, sp. n.

Fore-parts greasy lustrous, abdomen more shining ; black, the elytra dark brown. Antennæ black, the first three joints and the legs reddish-yellow. Length 2 mm.

Build of *tachyporoides* but much narrower, the antennæ much more slender though similarly constructed, sculpture similar to that of *tachyporoides* but not quite so close on the head and thorax, that of the elytra finer, the abdomen much less closely punctured and pubescent and so more shining than in that species.

♂: 7th dorsal segment with a little tubercle near the posterior margin ; 8th on each side with a short slender spine, in the middle with a pair of shorter, straight spines, each with a little keel at the base.

Chakrata district : Kanasar, alt. 7050 feet.

1669. *Placusa* (s. str.) *himalayica*, sp. n.

Subdepressed, acuminate behind ; the head and thorax dull, black, the elytra more shining, yellowish-brown, infusate

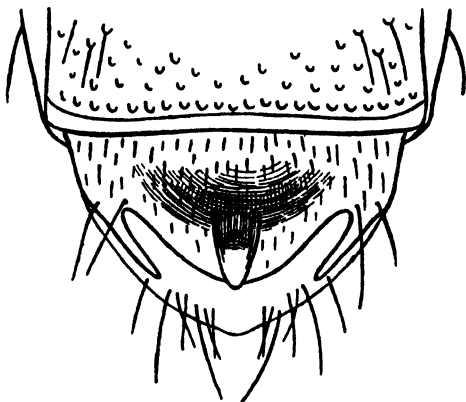


Fig. 66.—*Placusa* (s. str.) *himalayica*, ♂, apex of abdomen.

at the scutellum and at the sides ; abdomen more shining than the fore-parts. Antennæ black, the first joint reddish. Legs brownish-testaceous. Length 3.5 mm.

Build of *P. complanata* Er. but larger, the antennæ shorter and stouter, sculpture of the thorax denser, 7th abdominal segment more punctured ; penultimate joints of the antennæ two and a half times broader than long, in other respects

very similar. Head very finely, closely and roughly punctured, coriaceous. Antennæ short and stout, the 2nd and 3rd joints subequal, the 4th to 10th transverse, gradually increasing in width, the penultimate two and a half times broader than long, the 11th stout, subglobular. Thorax transverse (5 : 3), the sides gently rounded, more retracted in front, the posterior angles rounded, the base slightly emarginate on each side, the sculpture very fine, dense and rough, finely pubescent. Elytra one-third longer and a little broader than the thorax, more shining, finely, densely and roughly punctured. Abdomen narrowed behind, very finely and closely punctured.

♂ : 7th dorsal segment with two little tubercles near the middle ; 8th on either side with a long curved spine, in the middle with a stout, laterally compressed, suberect spine with pointed and slightly decurved apex which projects a little beyond the level of the apices of the lateral spines.

Chakrata district : Konain, alt. 8000 feet.

1670. *Placusa* (s. str.) *simlaensis*, sp. n.

In build, colour and lustre similar to *himalayica*, but smaller (3 mm.), with less stout antennæ, the thoracic sculpture a little less dense.

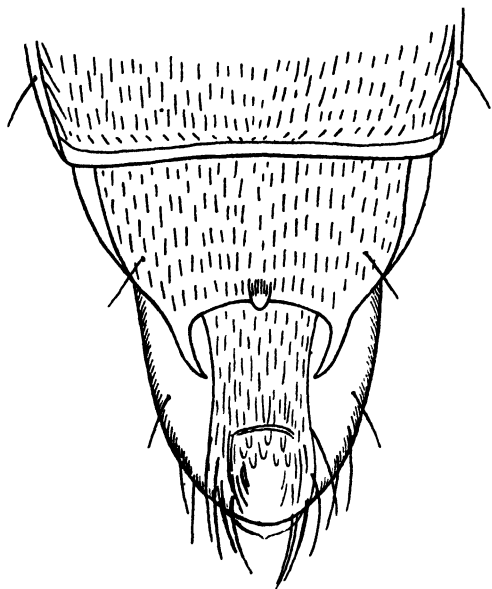


Fig. 67.—*Placusa* (s. str.) *simlaensis*, ♂, apex of abdomen.

♂ : 7th dorsal segment without tubercles ; 8th on each side with a long curved spine, the posterior margin between the

spines nearly truncate and furnished in the middle with a small tubercle.

Simla Hills: Gahan, Narkanda. Chakrata district: Konain, alt. 7000–9000 feet.

1671. *Placusa* (s. str.) *funnebris*, sp. n.

Entirely black, rather shining. Antennæ black, the base pitchy. Femora pitchy, tibiæ and tarsi reddish-yellow. Length 3 mm.

Build of *simlaensis* but entirely black and more shining; head, thorax, and elytra much less finely punctured, the latter more convex; abdomen more closely punctured and pubescent, subsericeous. Antennæ short and stout as in *simlaensis*.

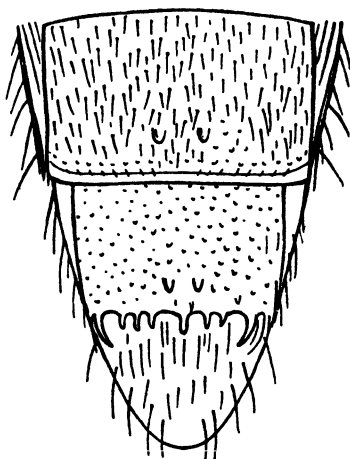


Fig. 68.—*Placusa* (s. str.) *funnebris*, ♂, apex of abdomen.

♂: 7th dorsal segment with a pair of small tubercles behind the middle of the segment; 8th with a pair near the posterior border, on either side with moderately long, slender, incurved spine, the margin between with six shorter, straight spines, the median one a little stouter, three being situated on one side and two on the other.

Chakrata district: Sainj Khud, alt. 6500 feet. Simla Hills: Kotgarh, alt. 7000 ft.

1672. *Placusa* (s. str.) *acuminata*.

Placusa acuminata Kr.*, Arch. Naturg. xxv, 1859, p. 43.

Placusa conura Cam., Trans. Ent. Soc. Lond. 1920, p. 227.

Moderately shining, the head black, thorax and abdomen lighter or darker reddish-brown; elytra brownish-yellow,
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a little infusate at the scutellum and sides. Antennæ black, the first two or three joints reddish-yellow. Legs yellow. Length 2-3 mm.

In facies somewhat resembling the subgenus *Acrotona*, but with less transverse thorax. Head finely, closely and roughly punctured, finely coriaceous. Antennæ with the 3rd joint a little longer than the 2nd, 4th as long as broad, 5th to 10th slightly transverse, 11th as long as the preceding two together. Thorax about a third broader than long, convex, the sides gently rounded, more retracted towards the front, the posterior angles rounded, finely, closely and roughly punctured, finely coriaceous. Elytra as long and as broad as the thorax, the puncturation a little less fine than

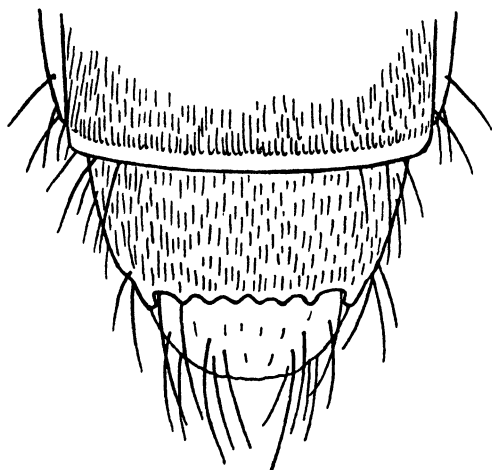


Fig. 69.—*Placusa* (s. str.) *acuminata*, ♂, apex of abdomen.

on the thorax, but equally close and rough. Abdomen a little narrowed behind, very finely and very closely punctured and pubescent.

♂: 8th dorsal segment with a little tooth on each side, the margin between truncate and furnished with six smaller ones.

Ceylon. India: Dehra Dun. Also in Singapore, Sumatra, and Java.

1673. *Placusa* (s. str.) *pygmæa*.

Placusa pygmæa Kr.*, Arch. Naturg. xxv, 1859, p. 44.

Rather shining, black, elytra pitchy-brown, more or less brownish-yellow towards the apex. Antennæ blackish, the first two or three joints yellowish. Legs yellow. Length 1.5 mm.

Head narrower than the thorax, closely, finely and roughly punctured, coriaceous. Antennæ rather slender, the 4th to 10th joints transverse, gradually increasing in width. Thorax about a half broader than long, the sides gently rounded, equally retracted in front and behind, the posterior angles obtuse, densely punctured like the head. Elytra a little broader and slightly longer than the thorax, finely, closely and roughly punctured. Abdomen very finely and closely punctured and pubescent throughout.

♂: 8th dorsal segment on each side with a slender incurved spine, in the middle with a shorter stouter one, the margin between truncate. Kraatz does not mention a central spine, but it is present in the co-type and in all the specimens I have seen.

Ceylon. Also in Sumatra, Engano, and Timor.

1674. *Placusa* (s. str.) *spinigera*.

Placusa spinigera Kr.*, Arch. Naturg. xxv, 1859, p. 43.

Subopaque, pitchy-black, the abdomen sometimes obscurely lighter at the base, the elytra brownish-yellow, scarcely infuscate around the scutellum. Antennæ blackish, the 1st joint brownish-yellow. Legs yellow. Length 1.75 mm.

Very near *pygmæa* but a little larger, less shining, more pitchy, the elytra differently coloured and longer. Subparallel, the head narrower than the thorax, densely finely and roughly punctured, finely coriaceous. Antennæ with the 3rd joint almost as long as the 2nd, 4th to 10th transverse, gradually increasing in width. Thorax about a half broader than long, the sides gently rounded, equally retracted in front and behind, the posterior angles obtuse, densely punctured like the head. Elytra a little broader and distinctly longer than the thorax, finely, closely and roughly punctured. Abdomen very finely and very closely punctured and pubescent throughout.

♂: 8th dorsal segment with a slender incurved spine on each side, in the middle with three teeth close together, the middle one stouter, between these and the spines broadly arcuately emarginate.

Ceylon.

1675. *Placusa* (s. str.) *subnitida*, sp. n.

Rather shining, black, the antennæ black, the first two joints brownish-yellow. Legs yellow. Length 1.75 mm.

Similar in build and lustre to *pygmæa* but larger and more robust, entirely black, the puncturation of the head and thorax rather more obsolete, the elytra and abdomen less

finely but equally closely punctured. The antennæ formed as in *pygmæa*.

♂: unknown.

United Provinces: Dehra Dun.

1676. *Placusa* (s. str.) *inconspicua*, sp. n.

Rather shining; head and thorax black, elytra dirty yellow, the abdomen brownish-yellow. Antennæ black, the 1st joint pitchy. Legs yellow. Length 1.75 mm.

Similar in size, build, and lustre to *subnitida* but differently coloured, the antennæ much shorter and stouter, the fore-parts more strongly punctured, the abdomen more finely punctured. From *pygmæa* it is distinguished by the shorter and much thicker antennæ, the penultimate joints of which are three times broader than long, and the stronger puncturation of the fore-parts.

♂: unknown.

United Provinces: Dehra Dun.

Key to the Species of the Subgenus Calpusa.

- | | | |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------|
| 1. Thorax closely, finely and roughly punctured, less shining; abdomen densely and finely punctured and pubescent | <i>intermedia</i> Cam., | [p. 197. |
| Thorax less closely, not roughly punctured, rather shining; abdomen much less densely punctured and pubescent | 2. | |
| 2. Head and thorax distinctly punctured; larger (3 mm.) | <i>insigniventris</i> , sp. n., | [p. 196. |
| Head and thorax indistinctly punctured, the punctures confused with the ground-sculpture | <i>fratercula</i> , sp. n., | [p. 197. |

1677. *Placusa* (*Calpusa*) *insigniventris*, sp. n. (Plate I, fig. 8.)

Black, shining, depressed, sparingly pubescent, the elytra pitchy, the bases of the first three abdominal segments a little lighter. Antennæ black, the first four joints testaceous. Legs testaceous. Length 3 mm.

Head narrower than the thorax, the eyes large, with a flat, rather close, obsoletely umbilicate puncturation and a fine coriaceous ground-sculpture. Antennæ with the 2nd and 3rd joints of equal length, 4th as long as broad, 5th to 10th transverse, gradually but only slightly increasing in width, the penultimate joints only slightly transverse, the 11th longer than the two preceding together. Thorax wider than the head, transverse, widest before the middle, from thence rounded and narrowed in front, almost straightly narrowed behind to the rounded posterior angles, base on either side a little emarginate, in front of the scutellum with a small fovea,

disc on either side before the middle with a larger puncture and another external to it; the general puncturation is moderately close and fine, with scarcely visible ground-sculpture. Elytra distinctly wider and a little longer than the thorax, transverse, finely, closely, asperately punctured. Abdomen finely, moderately closely punctured and pubescent throughout.

♂: abdomen feebly scaphoid, the side margins flattened, the 3rd (1st visible) segment with three tubercles at the base, a median and lateral on either side, the 4th and 5th with a lateral tubercle only; 4th with a long spine on each side curved backwards, downwards, and outwards, 5th with a similar but shorter spine; 8th on either side with a short stout process the apex of which is rounded, in the middle with a pair of long, stout spines placed close together, their apices projecting considerably beyond the level of the lateral processes and separated from them by a broad emargination; from below the lateral process on either side arises a long, straight, pointed spine, the apices of which extend beyond the level of those of the median spines; 6th ventral segment produced and rounded.

Assam: Naga Hills, alt. 4000 feet.

So far as can be seen without dissection of the mouth-parts this insect appears to be a *Placusa*; the tongue is apparently formed as in that genus.

1678. *Placusa (Calpusa) fratercula*, sp. n.

Closely allied to *insigniventris*, of similar colour but smaller (2.5 mm.), and much narrower and less shining, the penultimate joints of the antennæ a little more transverse: head yet more finely and obsoletely punctured, the punctures more confused with the ground-sculpture; puncturation of the thorax much finer, more sparing, the ground-sculpture more distinct, abdomen more parallel, in other respects similar to *insigniventris*.

♂: 8th dorsal segment with a long, slightly incurved, pointed spine on either side, the posterior margin between rounded and furnished with two shorter straight spines much nearer to each other than to the lateral ones, between their bases with a little tubercle.

Assam: Naga Hills, alt. 4000 feet. Under bark.

1679. *Placusa (Calpusa) intermedia*.

Placusa intermedia Cam., E. M. M. Ivii, 1921, p. 274.

Depressed, black, greasy lustrous, the elytra obscure reddish-brown, infuscate at the sides and scutellum. Antennæ black,

the first three joints and the legs reddish-yellow. Length 3 mm.

Head broad, narrower than the thorax, the disc broadly flattened, very finely and obsoletely punctured, finely and densely coriaceous. Antennæ with the 2nd joint a little shorter than the 3rd, the 4th scarcely longer than broad, the 5th perceptibly shorter, the 6th to the 10th transverse, gradually increasing in breadth, the 11th stout, oval. Thorax transverse, fully one-third as broad again as long, depressed, widest at the junction of the anterior and middle thirds, from thence rounded and contracted anteriorly, narrowed more strongly posteriorly to the obtuse but prominent posterior angles in a feebly sinuated line, the base distinctly bisinuate; disc broadly impressed posteriorly; puncturation close, fine, and asperate, and with a transverse row of four rather

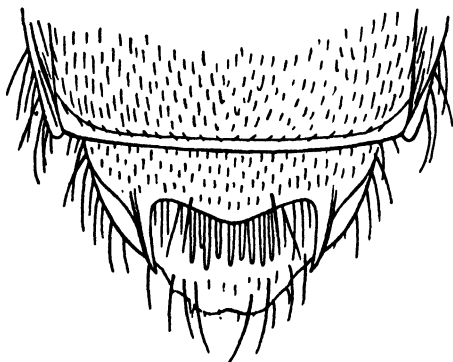


Fig. 70.—*Placusa (Calpusa) intermedia*, ♂, apex of abdomen.

small punctures across the middle. Elytra as long as, but distinctly broader than, the thorax, transverse, closely, finely, and asperately punctured. Abdomen gradually and slightly narrowed posteriorly, densely, finely punctured and pubescent.

♂: posterior border of the 8th dorsal segment emarginate on either side, rounded in the middle, and the emargination bounded externally by a sharp spine.

Nilgiri Hills (*H. L. Andrewes*).

Genus **LAMPROMALOTA** Cam.

Lampromalota Cam., Trans. Ent. Soc. Lond. 1920, p. 246;
Tijdschr. Ent. lxxix, 1936, p. 13.

Somewhat depressed, parallel species. Temples bordered behind. Right mandible with a small tooth, the mouth-parts otherwise scarcely differing from *Placusa*. Pronotal

epipleura visible from the side. Mesosternal process bluntly pointed, extending about half the length of the coxæ, these narrowly separated. Tarsi 4, 4, 5; the anterior with the first three joints short and subequal, the 4th nearly as long as the first three together; middle with first three joints short and subequal, the 4th as long as the first three together; posterior with the first four joints short and subequal, the 5th as long as the preceding three together. Tibiæ without setæ. In facies somewhat resembling the subgenus *Calpusa*, but at once distinguished from it by the structure of the posterior tarsi.

Key to the Species.

Larger (2.5 mm.), less shining, coriaceous species	<i>uniformis</i> , sp. n.,	[p. 200.
Smaller (1.8-2 mm.), strongly shining species, without ground-sculpture	<i>brunneicollis</i> Cam.,	[p. 199.

1680. *Lampromalota brunneicollis*.

Lampromalota brunneicollis Cam., Trans. Ent. Soc. Lond. 1920, p. 246.

Subparallel, depressed, very shining. Head black; thorax pitchy-brown or pitchy-black; elytra brownish-yellow; abdomen pitchy. Antennæ with the first three joints brownish-yellow, the rest black. Legs yellow. Length 1.8-2 mm.

Head large, black, shining, transversely suborbicular, the front truncate, eyes rather large, as long as the post-ocular region, which is rounded and converging and slightly constricted behind; puncturation exceedingly fine and sparing and without visible ground-sculpture. Antennæ with the first three joints fusco-testaceous, the others black; the 2nd joint shorter than the 1st, the 3rd shorter than the 2nd, the 4th as broad as long, the 5th to the 10th transverse, gradually increasing in breadth, the penultimate fully twice as broad as long, the 11th oval. Thorax slightly transverse, a little broader than the head, widest just behind the anterior angles; the sides narrowed and rounded anteriorly, more strongly contracted behind in a straight line to the obtuse posterior angles; the base finely bordered; puncturation and pubescence very fine and sparing; ground-sculpture absent; the sides with two setæ near the anterior angles. Scutellum finely punctured. Elytra fusco-testaceous, obscurely darker at the base, parallel, a little longer than, but as wide as, the thorax, scarcely longer than broad, finely and obsoletely but moderately closely punctured and finely pubescent; the sides with a seta behind the humeral angles. Abdomen very slightly widened behind, less shining than the fore-parts, very finely but rather closely punctured and pubescent throughout, rather

more sparingly on the last two segments. The abdomen presents no special characters in the specimens before me.

Assam : Manipur, Shugnu, alt. 3000 feet. Also in Singapore and Sumatra. Under bark.

1681. *Lampromalota uniformis*, sp. n.

Black, greasy lustrous, the elytra and abdomen more pitchy. Antennæ black, the first three joints brownish-yellow. Legs reddish-yellow, the femora a little infusate. Length 2.5 mm.

Larger and much less shining than *brunneicollis*, distinctly coriaceous, the antennæ longer and stouter. Head transversely suborbicular, narrower than the thorax, coriaceous, the front impunctate, the rest of the surface rather closely

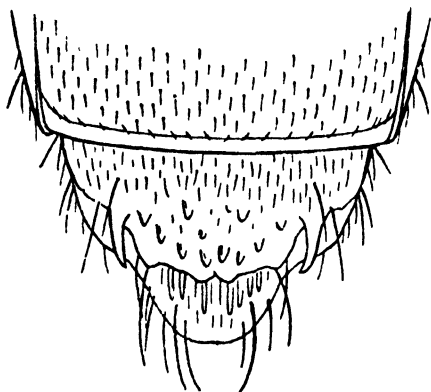


Fig. 71.—*Lampromalota uniformis*, ♂, apex of abdomen.

covered with moderately fine superficial punctures. Antennæ with the 3rd joint slightly longer than the 2nd, 4th square, 5th to 10th transverse, not increasing much in width, 11th about as long as the 9th and 10th together. Thorax transverse (7 : 5), the sides rounded in front, retracted and straight behind to the obtuse posterior angles ; in the middle before the base broadly and superficially impressed, closely and more finely punctured than the head. Elytra a little broader and about a third longer than the thorax, finely and closely punctured. Abdomen slightly narrowed at apex, finely and closely punctured and pubescent throughout.

♂ : 8th dorsal segment with a curved spine on each side, the margin between a little produced, rounded and crenulate.

Ghum district : Mangpu. Under bark.

Genus **HOMALOTA** Mannerh.

Homalota Mannerh., Mém. Acad. Sci. St. Petersb. i, 1830, p. 487 ; Steph. Ill. Brit. Ent. Mandib. v, 1832, p. 429 ; Thoms., Skand. Col. ii, 1860, p. 284 ; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 291 ; Everts, Col. Neerl. i, 1898, p. 238 ; Reitt., Faun. Germ. ii, 1909, p. 82 ; Blatchley, Col. Indiana, i, 1910, p. 342 ; Fenyès, Gen. Ins. 173 A, 1918, p. 86 ; Cam., Trans. Ent. Soc. Lond. 1920, p. 357 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 308 ; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 71.
Epipeda Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. v, 1871, p. 136 ; Sharp, Trans. Ent. Soc. Lond. 1876, p. 45 ; id., B. C.-A. i, 2, 1882-87(1883), p. 240 ; Fowler, Col. Brit. Isl. ii, 1888, p. 162 ; Johansen, Danmarks Rovbiller, 1914, p. 257.

Subdepressed, more or less parallel species, the head exserted,

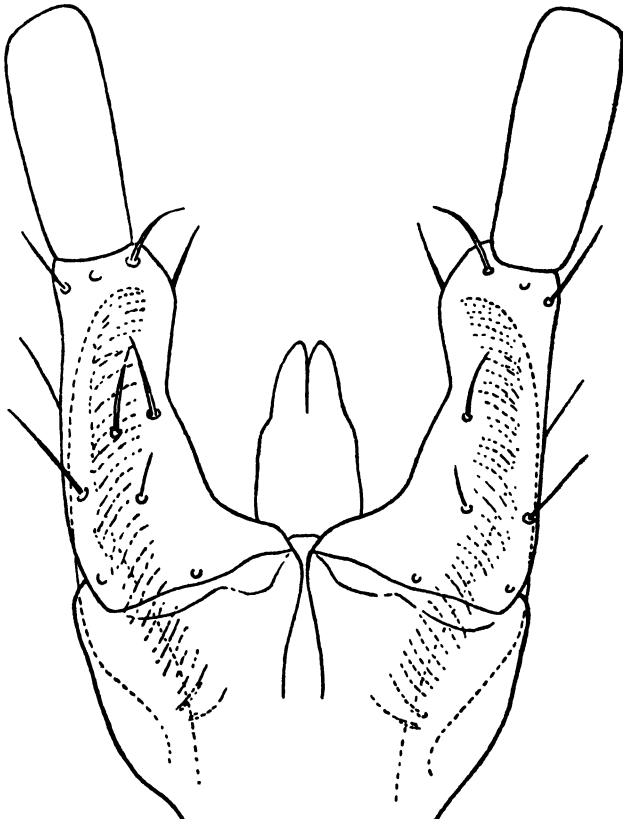


Fig. 72.—*Homalota plana*, labium.

constricted behind, the temples bordered below ; gular sutures distant, parallel. Thorax transverse, the sides rounded in

front, straighter and retracted behind, the pronotal epipleura visible from the side. Elytra truncate behind. Abdomen with the first four visible segments transversely impressed at the bases. Anterior and middle tarsi with the first three joints short, subequal, the 4th longer than the three preceding together; posterior with the first four joints short and subequal, the 5th as long as the four preceding together. Middle and posterior tibiae with a seta. Labrum transverse, feebly arcuately emarginate in the middle in front. Mandibles short and stout, pointed, the right with a small tooth about the middle†. Maxillary palpi with small 1st joint, 2nd lightly curved and a little thickened towards apex, 3rd a little longer and more thickened apically than the 2nd, 4th subulate, about half as long as the 3rd. Outer lobe of maxilla narrow, shorter than the inner, ciliate at apex, the inner narrow, pointed, with 7 or 8 teeth, short at the apex and gradually becoming longer behind. Mentum transverse, trapezoidal, broadly and feebly emarginate in front; labial palpi 2-jointed, the 1st joint rather short, its inner border emarginate, 2nd shorter and narrower than the 1st, truncate. Tongue membranous, triangular, widest behind, split at apex into two narrow parallel lobes, extending beyond the 1st joint of the labial palpi. Prosternum keeled; pronotal epipleura rather broad, deflexed, visible from the side. Mesosternum simple, its process acute, extending half the length of the coxæ and meeting the acute metasternal process, coxæ narrowly separated. The genus is widely distributed and is sub-cortical in habit. It is doubtful whether the two species described below belong to this genus, the structure of the mandibles in *mandibularis* differing; the two species being unique, a study of the mouth-parts is impracticable.

Key to the Species.

Larger (2.3 mm.), reddish-brown *mandibularis*, sp. n., p. 202.
 Smaller (1.75 mm.), bright reddish-yellow *rufotestacea*, sp. n., p. 203.

1682. *Homalota* (?) *mandibularis*, sp. n.

Moderately shining reddish-brown, the head darker, the abdomen red, with the 6th segment black. Antennæ and legs reddish-yellow. Length 2.3 mm.

Head large, as broad as the thorax, the eyes very small, the post-ocular region much longer, rounded, finely coriaceous, the front impunctate, elsewhere covered with large, rather close umbilicate punctures. Mandibles exerted, the right long, slender and falciform, the left very thick for the basal two-thirds, then suddenly contracted and narrowed to a point. Antennæ with the 3rd joint shorter than the 2nd, the 4th to

† See, however, under *mandibularis*.

10th transverse, gradually increasing in width. Thorax slightly transverse, the sides gently rounded in front, straight and rather strongly retracted behind to the obtuse posterior angles; in the middle in front superficially impressed, before the base on each side with a raised oblique shining ridge; ground-sculpture weak at the sides, stronger along the middle, punctures small, moderately close, more sparing at the sides. Elytra about a third longer and a little broader than the thorax, with rather close, moderately fine, superficial umbilicate punctures. Abdomen with fine, rather sparing, asperate punctures on the basal segments, yet more sparing behind.

Ceylon: Horton Plains, alt. 6000 feet (*G. Lewis*).

So far as I can see without dissection the mouth-parts appear to be similar to those of *Homalota*; the mandibles, however, are quite different, and it is probable that a new genus will be required for this and the following species.

1683. *Homalota* (?) *rufotestacea*, sp. n.

Moderately shining, bright reddish-yellow, the 6th abdominal segment infusate. Antennæ and legs reddish-yellow. Length 1.75 mm.

Smaller, narrower, and more brightly coloured than *mandibularis*, the antennæ similarly constructed but a little shorter and stouter, punctures of head a little smaller, thorax with a superficial U-shaped impression before the base, more finely and more obsoletely punctured, in other respects similar to *mandibularis*.

Ceylon: Dikoya, alt. 3800–4200 feet (*G. Lewis*).

Genus **ANOMOGNATHUS** Gemm. et Har.

Anomognathus Gemm. et Har., Cat. Col. ii, 1868, p. 530; Kraatz, Berl. Ent. Zeitschr. iii, 1859, p. 9; Lacord., Gen. Col. ii, 1854, p. 157; Fauv., Bull. Soc. Linn. Norm. x, 1864–65, p. 313; id., Rev. d'Ent. xiv, 1895, p. 97, xvii, 1898, p. 105, and xxi, 1902, p. 147; Fenyès, Gen. Ins. 173 A, 1918, p. 85; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 71.

Anomognathus Sol., in Gay, Hist. Chile, Zool. iv, 1849, p. 337.

Thectura Thoms., Öfv. Svensk. Vet.-Akad. Förh. 1858, p. 32; Skand. Col. ii, 1860, p. 285; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 326; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 292; Everts, Col. Neerl. i, 1898, p. 238; Reitt., Faun. Germ. ii, 1909, p. 82; Johansen, Danmarks Rovbiller, 1914, p. 258; Cameron, Trans. Ent. Soc. Lond. 1920, pp. 357, 391; Portevin, Encyc. Ent. A, xii, 1929, i, p. 304.

BIOLOGY.—Perris, Ann. Soc. Ent. Fr. (3) i, 1853, p. 562, tab. 17, fig. 16; id., Hist. Ins. Pin. Marit. i, 1863, p. 40, fig. 16; Kraatz, Naturg. Ins. Deutsch. Col. ii, 1856–58, p. 194; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 292; Bagnall, Ent. Rec. xviii, 1906, p. 242; Xamheu, Échange, xxv, 1909, p. 15.

Depressed, parallel species. Head subquadrate, the temples not bordered below. Labrum transverse, feebly rounded in

front. Mandibles stout, curved, pointed, the right with a small tooth at the middle. Maxillæ with the outer lobe ciliate at apex, the inner narrower, pointed, finely spinose internally. Maxillary palpi 4-jointed, the 1st joint small, 2nd rather short, obtriangular, 3rd longer and much stouter than the 2nd, oviform, 4th small, subulate. Mentum transverse, narrowed towards the front, the anterior margin truncate or very feebly emarginate. Tongue short, broader behind, about as long as the 1st joint of the labial palpi, split to about the middle into two triangular lobes. Paraglossæ feeble. Labial palpi 2-jointed, the 1st joint nearly cylindrical, the 2nd shorter and a good deal narrower. Thorax subquadrate, the pronotal epipleura visible from the side. Middle coxæ very narrowly separated. Abdomen with the first four visible segments transversely impressed at the base. Elytra truncate. Legs rather short. Tarsi 4, 4, 5; the basal joints short and subequal. Allied to *Homalota*, differs from it in the immarginate temples, stouter maxillary palpi with oviform 3rd joint, and the cylindrical 1st joint of the labial palpi. The genus is widely distributed and found under the bark of decaying trees.

Key to the Species.

- | | |
|-------------------------------------------------------------------|--------------------------------------|
| 1. Dark species | 2. |
| Brightly coloured species | 4. |
| 2. Larger (2-2.8 mm.) | 3. |
| Smaller (1.5 mm.) | <i>minutus</i> , sp. n., p. 207. |
| 3. Head deeply punctured; thorax black .. | <i>himalayicus</i> , sp. n., p. 204. |
| Head superficially punctured; thorax reddish-brown | <i>masuriensis</i> , sp. n., p. 205. |
| 4. Larger (2.2 mm.); head reddish; antennæ reddish-yellow | <i>latus</i> , sp. n., p. 207. |
| Smaller (1.8 mm.); head black; antennæ (except base) pitchy | <i>cingulatus</i> , sp. n., p. 206. |

1684. *Anomognathus himalayicus*, sp. n.

Parallel, depressed, rather shining, black, the elytra posteriorly on each side of the suture with indeterminate reddish-yellow spot. Antennæ black, the first three joints brownish-yellow. Legs yellow. Length 2-2.8 mm.

Larger than *cuspidatus* Er., with the post-ocular region more rounded and retracted behind, the puncturation coarser and closer, antennæ longer, thorax less finely, more closely punctured, elytra much less finely punctured, abdomen without tubercles, the median spine of the 8th segment much shorter. Head nearly as broad as the thorax, the post-ocular region rounded, closely covered with small umbilicate punctures except in front, which is smooth and shining, the ground-sculpture between the punctures feeble, vertex foveate. Antennæ with the 3rd joint shorter than 2nd, 4th subquadrate,

5th to 10th transverse, gradually increasing in width. Thorax slightly transverse, the sides feebly rounded in front, straight and retracted behind, in the middle behind with a large shallow impression, in front near the anterior border with a smaller one, puncturation fine, close, and subasperate, ground-sculpture distinct, coriaceous. Elytra a little longer and broader than the thorax, finely, closely punctured. Abdomen finely and rather closely punctured, the 8th dorsal segment with three spines, the lateral slender, the median variable, sometimes small, sometimes stout and truncate at apex, and in this

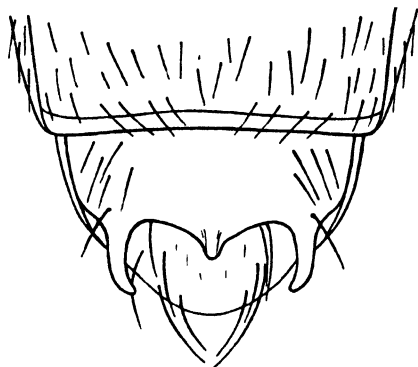


Fig. 73.—*Anomognathus himalayicus*, ♂, apex of abdomen.

case often with a little tooth at each side of its base. The whole insect finely pubescent.

Simla Hills : Gahan, Kotgarh, Fagu, alt. 7000 feet ; Narkanda, alt. 9230 feet. Chakrata district : Kanasar, alt. 7000 feet. Mussooree district : Mossy Falls, alt. 6000 feet. W. Almora, Kumaun. Kashmir : Gulmarg.

1685. *Anomognathus masuriensis*, sp. n.

Greasy lustrous, abdomen more shining. Head black ; thorax reddish-brown ; elytra brownish-yellow, infuscate at the scutellary and postero-external regions ; abdomen with the first two segments pitchy, the rest black. Antennæ black, the first three joints yellow. Legs yellow. Length 2.8 mm.

Of the size of *himalayicus* but rather broader, less shining, differently coloured, puncturation of the head finer and more confused with the ground-sculpture. Head transverse, nearly as broad as the thorax, the post-ocular region rounded, closely and finely punctured, the punctures confused with the well-marked coriaceous ground-sculpture, the front coriaceous

and with a few fine punctures. Antennæ stouter than in *himalayicus*, the 4th joint transverse. Thorax rather more transverse than in *himalayicus*, the sides in front feebly rounded, straight, and retracted behind, along the middle feebly sulcate, coriaceous and with a fine, close, asperate puncturation. Elytra a little longer and broader than the thorax, very finely and closely punctured. Abdomen finely and rather

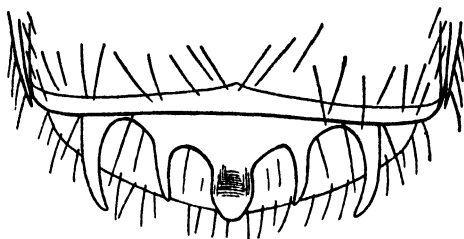


Fig. 74.—*Anomognathus masuriensis*, ♂, apex of abdomen.

closely punctured, the 8th segment with a short blunt spine in the middle and on each side of its base with a more or less distinct tooth or spine, on either side with a slender curved spine.

Mussooree district: Mossy Falls. Chakrata district: Kanasar, alt. 7000 feet.

1686. *Anomognathus cingulatus*, sp. n.

Narrow, depressed, parallel, moderately shining, the head black; thorax and abdomen reddish-yellow, the latter with the 4th and 5th segments (except the posterior margins) black. Antennæ with the first three joints reddish-yellow, the rest blackish. Legs yellow. Length 1.8 mm.

Narrower than *cuspidatus* Er., very similar in build but differently coloured and with stouter antennæ. Head square, as broad as the thorax, the vertex foveate, coriaceous, and with small, rather close, superficial umbilicate punctures. Antennæ short and stout, the 4th to 10th joints transverse, the penultimate strongly so. Thorax as long as broad, the sides nearly straight, slightly retracted behind, along the middle with a fine impressed line, finely, moderately closely punctured, coriaceous. Elytra about a half longer than the thorax and a little broader, with rather close, small, finely umbilicate punctures. Abdomen finely and moderately closely punctured on the anterior segments, much more sparingly behind; 8th with a long, slender, nearly straight spine on each side, in the middle with a shorter one.

Ghum district: Mangpu.

1687. *Anomognathus minutus*, sp. n.

Minute, parallel, depressed, moderately shining, head black; thorax and abdomen pitchy; elytra yellowish-brown. Antennæ pitchy, the first three joints reddish-yellow. Legs reddish-yellow. Length 1.2–1.5 mm.

In size and build much resembling *brunneicollis* Cam. from Singapore, but less shining and with more finely punctured head and thorax. Head square, nearly as broad as the thorax, the temples very slightly dilated, the posterior angles rounded; vertex lightly impressed; the puncturation close, superficial, and finely umbilicate, coriaceous. Antennæ with the 4th to 10th joints transverse, gradually increasing in width. Thorax scarcely broader than long, the sides feebly rounded in front, straight and retracted behind, sulcate along the middle, finely, moderately closely, superficially punctured, coriaceous. Elytra a little longer than the thorax, scarcely longer than broad, very finely closely punctured. Abdomen finely and rather closely punctured in front, gradually more sparingly behind; 8th dorsal segment with two little teeth close together on the middle of the posterior border, on each side with a short spine, sometimes with the two median teeth fused together, forming a plate with bifid apex.

Siwaliks: Thano (ex *Sterculia villosa*). Ghum district: Mangpu.

1688. *Anomognathus lætus*, sp. n.

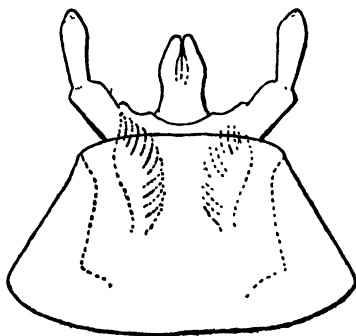
Depressed, parallel, reddish-yellow, the head and 4th visible abdominal segment more or less infusate; elytra yellowish-brown. Antennæ and legs reddish-yellow. Length 2.2 mm.

Very similar to *quadriceps* Cam. from Sumatra, but a little narrower, the thorax narrower, and the antennæ entirely reddish-yellow. Head quadrate, slightly broader than long, as broad as the thorax, the front smooth and shining, the rest of the surface rather closely covered with small umbilicate punctures and coriaceous. Antennæ with the 3rd joint as long as the 2nd, 4th to 10th transverse, gradually increasing in width. Thorax slightly transverse, the sides almost straight, retracted behind, sometimes with feeble impressed line along the middle, puncturation fine, not very close, the ground-sculpture feeble. Elytra a little longer and scarcely broader than the thorax, a little longer than broad, finely and rather closely punctured. Abdomen finely and rather closely punctured in front, much more sparingly behind; 8th dorsal segment with a short spine on each side, the margin between either truncate or with two minute teeth close together at the middle.

Ghum district: Mangpu.

Genus **CHLEDOPHILA** Cam.*Chledophila* Cam., Trans. Ent. Soc. Lond. 1920, p. 231.

Labrum transverse, the sides and anterior angles rounded, the anterior margin feebly sinuate on either side of the middle line. Mandibles rather stout, pointed at the apex, the right with a small tooth at the middle of the inner margin, which is crenulate between the tooth and the apex; the left simple. Maxillary palpi 4-jointed, the 1st joint small and short, the 2nd elongate, narrowed at the base, gradually thickened to the apex, the 3rd shorter and stouter than the 2nd, widest at the apex, the 4th subulate, fully half as long as the 3rd. Inner lobe of the maxilla rather narrow, strongly pectinate along the inner margin; outer lobe narrower than the inner, the apex strongly pectinate. The tongue widest at the middle, about as long as the 1st joint of the labial palpi and split to

Fig. 75.—*Chledophila annularis*, labium.

the middle. Paraglossæ distinct, ciliate. Labial palpi 2-jointed; the 1st joint moderately long and stout, distinctly constricted on the inner margin near the base, the 2nd shorter and narrower than the 1st, a little enlarged towards the apex. Gular sutures distant, diverging posteriorly. Temples bordered below. Pronotal epipleura not visible from the side. Prosternum truncate posteriorly, without intercoxal process. Mesosternal process narrow and pointed, extending half the length of the coxæ, which are but narrowly separated. Metasternal process narrow, emarginate in front at its junction with the mesosternal process. Tarsal formula 4, 4, 5; the anterior pair with the first three joints short and subequal, the 4th as long as the three preceding together; the middle pair with the first three joints rather short and subequal, the 4th as long as the preceding three together; the posterior pair with the first four joints rather short (but longer than those of the middle pair), subequal, the 5th about as long as the two

preceding together. Tibiæ finely ciliate. Elytra slightly sinuate internal to the postero-external angles. Abdomen with the bases of the first three visible tergites transversely impressed. The species on which the genus is founded has somewhat the appearance of a *Placus*.

The species are found under bark and in detritus.

Key to the Species.

- | | | |
|-----------------------------------------------------------------------------------------------------------------------|----|----------------------------------|
| 1. More brightly coloured species, the antennæ clear reddish-yellow | 2. | |
| Darker species; head and elytra blackish; antennæ reddish-brown, the first two joints reddish-yellow | | [p. 210. |
| | | <i>nigriceps</i> , sp. n., |
| 2. More shining; punctures of head coarser and deeper; thorax and elytra less closely and less finely punctured | | <i>similis</i> , sp. n., p. 209. |
| Less shining; punctures of head finer and more superficial; thorax and elytra finely and densely punctured | | [p. 210. |
| | | <i>almorensis</i> , sp. n., |

1689. *Chledophila similis*, sp. n.

Moderately shining, the head ferruginous-red, thorax and abdomen yellowish-red, the 4th visible segment infusate; elytra brownish-yellow. Antennæ and legs reddish-yellow. Length 1.75–2 mm.

Very like *annularis* Cam., but the head is much less finely deeply and closely punctured and without distinct ground-sculpture, the antennæ entirely reddish-yellow, the thorax is as finely but rather less closely punctured, the elytra not infusate, a little less finely and a little less closely punctured than in that species, and the ♂ characters are different. Head about two-thirds as wide as the thorax, its base concealed therein, eyes rather large but not prominent, the post-ocular region straight and slightly retracted behind, puncturation close, moderately fine and deep. Antennæ with the 3rd joint as long as the 2nd, 4th as long as broad, 5th to 10th transverse, the penultimate about twice as broad as long, the 11th as long as the preceding two together. Thorax about a half broader than long, widest about the middle, the sides rounded and retracted in front, straighter and equally retracted behind to the obtuse posterior angles, at the middle of the base with an obsolete impression, closely covered with a fine asperate puncturation, very finely coriaceous. Elytra as long as and scarcely broader than the thorax and a little less finely and a little less closely punctured, the punctures asperate. Abdomen a little narrowed before the apex, finely and closely punctured, the punctures with the ground-sculpture forming a squamous pattern. The whole insect finely yellow pubescent.

♂: elytra along the sutural margin with a row of about six small tubercles; 7th dorsal segment on the posterior half covered with small elongate granules, 8th with similar granules, its posterior border slightly emarginate.

Ghum district: Mangpu, Rongdong Valley. Mussooree: Mossy Falls.

1690. *Chledophila almorensis*, sp. n.

Very like *similis*, but less shining, the punctures of the head smaller and less deep, the ground-sculpture more distinct, the puncturation of the thorax and elytra finer and closer.

The ♂ characters are the same as in *similis*.

Almora: Zodh.

1691. *Chledophila nigriceps*, sp. n.

Greasy lustrous, head black, thorax dark reddish-brown, elytra blackish, abdomen yellowish-red, the 4th and anterior half of the 5th (visible) segments blackish. Antennæ brown, the first two joints and the legs reddish-yellow. Length 1.75 mm.

Distinguished from the two preceding species by the darker colour; the head is deeply punctured as in *similis*, the thorax and elytra more densely punctured as in *almorensis*. In the ♂ the elytra are without trace of tubercles, but the 7th and 8th abdominal segments have the same characters as *similis*.

Ghum district: Mangpu.

Genus **NEOMALOTA** Cam.

Neomalota Cam., Trans. Ent. Soc. Lond. 1920, p. 244.

Labrum transverse, the sides and angles rounded, the anterior margin lightly emarginate. Mandibles moderate, lightly curved, the right with a small tooth about the middle of the inner border. Maxillary palpi with the 1st joint small, scarcely longer than broad, the 2nd elongate, widened towards the apex, the 3rd longer than the 2nd, the 4th small, subulate, not half the length of the preceding. Inner lobe of the maxilla pectinate, the teeth decreasing in length towards the apex; outer lobe ciliate. Mentum transverse, narrower in front than behind, the anterior border broadly and rather deeply emarginate. The tongue narrow and elongate, extending beyond the base of the 2nd joint of the labial palpi, bifid at the extremity. Paraglossæ ciliate, extending to the level of the tip of the tongue. Labial palpi 2-jointed, the 1st joint elongate, lightly curved, slightly constricted at the inner border beyond the middle, the 2nd joint narrower and a little

shorter than the 1st. The temples not bordered below. Pronotal epipleura visible from the side. Prosternum lightly produced backwards in a short triangular process in the middle. Mesosternal process bluntly pointed, extending half the length of the coxæ, which are narrowly separated. Metasternal process not quite meeting the mesosternal process. Anterior tarsi with the first three joints short, subequal, the 4th longer than these together. Middle tarsi with the first three joints short but slightly increasing in length, the 4th joint longer than the preceding together. Posterior tarsi with the first four joints rather short but gradually increasing in length, the 5th nearly as long as the preceding together. Middle and posterior tibiæ with a short weak seta at the middle of the external border. The elytra sinuate internal to the postero-external angles. Abdomen with the first three visible tergites transversely impressed.

This genus is at once distinguished from *Homalota* and *Mimomalota* by the transversely suborbicular head, the immarginate temples, and deeply emarginate mentum. The genus is, I believe, associated with ants.

1692. *Neomalota flavipennis*, sp. n.

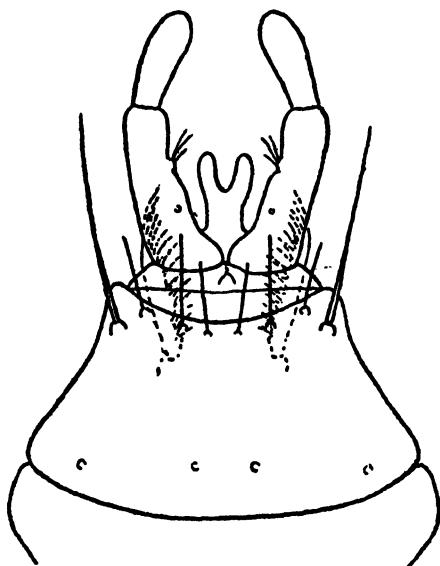
Head and thorax black, subopaque, elytra and abdomen a little more shining, the former brownish-yellow, the latter pitchy, the posterior margins of the segments narrowly lighter. Antennæ black, the first two joints pitchy yellow. Legs yellow. Length 2.5 mm.

Allied to *cingulata* Cam. from Singapore, but differs in the larger size, colour of the elytra and abdomen, and less shining head and thorax; the larger punctures of the elytra are less numerous and limited to the scutellary region. Head transversely suborbicular, nearly as broad as the thorax, the eyes large, nearly as long as the post-ocular region, very closely, moderately finely, roughly punctured. Antennæ with 2nd and 3rd joints of equal length, the 4th to 10th transverse, not increasing much in width. Thorax a little transverse, the sides rounded in front, straight and retracted behind to the obtuse posterior angles, along the middle with a rather deep impressed line, the sculpture similar to that of the head but coarser. Elytra a little longer and broader than the thorax, slightly transverse, very finely and closely punctured, with a few larger superficial punctures chiefly in the sutural region, finely pubescent. Abdomen a little narrowed towards the apex, closely and finely punctured and pubescent, a little more sparingly on the last two segments.

Mussooree district : Ringal Gadh.

Genus **MIMOMALOTA** Cam.*Mimomalota* Cam., Trans. Ent. Soc. Lond. 1920, pp. 242, 358.

Similar to *Homalota* in most of the structural characters, but the tongue is not widened behind but a little narrowed at the base. It is shorter than the 1st joint of the labial palpi and arcuately emarginate nearly to the middle into two narrow diverging lobes; the labial palpi are longer than in *Homalota*, the 1st joint almost cylindrical, only obscurely constricted at the inner border, the 2nd narrower and half the length of the 1st. From *Stenomastax* it differs in the much

Fig. 76.—*Mimomalota bispina*, labium.

shorter tongue and non-styliform labial palpi. The species, although coriaceous, are more shining than in these genera and have the habitus of *Stenomastax*, being found in decaying fruit. Several species formerly referred to this genus must be removed to *Stenomastax*.

1693. ***Mimomalota ceylonica***, sp. n.

Shining, yellowish-red, the 6th abdominal segment infusate. Antennæ and legs reddish-yellow. Length 2 mm.

More brightly coloured than *bispina* Cam. from the Malay States, the antennæ a little thicker but similarly constructed, the punctures of the head smaller and more superficial, thorax

shorter, practically impunctate. Head narrower than the thorax, coriaceous, except in front covered with small superficial umbilicate punctures. Antennæ with the 4th to 10th joints transverse, gradually increasing in width. Thorax a third broader than long, the sides feebly rounded in front, straight and retracted behind to the obtuse posterior angles, broadly impressed along the middle, coriaceous, practically impunctate. Elytra a half longer than the thorax, rather closely and extremely finely punctured. Abdomen very finely, sparingly punctured on the first three segments, almost impunctate behind. In the single specimen the 8th dorsal segment is broadly rounded.

Ceylon : Dikoya, alt. 3800–4200 feet (*G. Lewis*).

Genus **LEPTUSA** Kr.

Leptusa Kr., *Naturl. Ins. Deutsch. Col.* ii, 1856–58 (1857), p. 60 ; Redtb., *Faun. Austr.* ed. ii, 1858, p. 147, ed. iii, 1874, p. 134 ; Jacq. du Val, *Gen. Col. d'Eur.* ii, 1857–59, p. 8 ; Fowler, *Col. Brit. Isl.* ii, 1888, p. 164 ; Ganglb., *Käf. Mitt.-Eur.* ii, 1895, p. 271 ; Everts, *Col. Neerl.* i, 1898, p. 235 ; Bernh., *W. Z. B.* i, 1900, p. 399 ; Reitt., *Faun. Germ.* ii, 1909, p. 80 ; Blatchley, *Col. Indiana*, i, 1910, p. 342 ; Johansen, *Danmarks Rovbiller*, 1914, p. 249 ; Fenyès, *Gen. Ins.* 173 a, 1920, p. 120 ; Portevin, *Encycl. Ent. A*, xii, 1929, i, p. 300 ; Scheerp., *Tierwelt Mitteleur.* v, 2, 1930, p. 71.

This genus varies much in facies according to the length of the elytra, shape of the abdomen, and presence or absence of eyes ; it has accordingly been divided into several subgenera, but as only one species is known to me from our Fauna which is referable to *Leptusa*, s. str., the references to the subgenera are omitted. The two species described by Kraatz from India belong to the genus *Cænonica*.

Subgenus **LEPTUSA**, s. str.

Narrow and elongate, more or less convex, the eyes moderate, thorax moderately transverse, elytra a little longer than the thorax, the abdomen parallel. Head not broader than the thorax, rounded behind the eyes, the temples finely bordered below. Labrum transverse, truncate or feebly emarginate in front, the anterior angles rounded. Mandibles small, curved, pointed, the right with a small tooth at the middle of the inner margin. Maxillæ with the outer lobe a little broader than the inner, truncate and ciliate at apex ; the inner lobe narrow, pointed, closely set, with slightly curved teeth along the inner border, which are longer behind. Maxillary palpi with small 1st joint, 2nd elongate, slightly thickened towards apex, 3rd a little longer and slightly thicker at

apex, 4th subulate, scarcely half as long as the 3rd. Mentum transverse, trapezoidal, broadly and slightly emarginate in front. Tongue narrow, simple, shorter than the first two joints of the labial palpi together, rounded or truncate at apex. Labial palpi moderate, more or less distinctly 3-jointed, the 1st joint short, narrowed towards the apex, 2nd longer, its base as broad as the apex of the 1st and separated from it by a more or less distinct suture, towards the apex, gradually narrowed, 3rd a little shorter than the 1st and 2nd together, a little narrowed at the base, widened towards apex which is rounded. Paraglossæ feeble. Thorax moderately transverse, the pronotal epipleura distinctly visible from the side. Prosternum keeled in the anterior half. Mesosternum simple, its process narrow and pointed, extending at least to the middle of the coxæ, these narrowly separated. Metasternal process short, separated from the mesosternum by a short intersternal piece. Elytra longer than the thorax, emarginate postero-externally. Legs rather slender. Tibiæ ciliate. Tarsi 4, 4, 5; the anterior and middle with the first three joints short and subequal, the 4th as long or longer than the three preceding together; posterior with the 1st joint a little longer than the 2nd, 3rd and 4th gradually shorter, 5th about as long as the 2nd, 3rd, and 4th together. Abdomen parallel, the first three visible segments strongly transversely impressed at the base. The species are widely distributed and found in fungus and damp situations.

1694. *Leptusa* (s. str.) *indica*, sp. n.

Shining, ferruginous-red, the 4th visible abdominal segment blackish. Antennæ reddish-brown, the first three joints and the last reddish-yellow. Legs reddish-yellow. Length 2.2 mm.

Head narrower than the thorax, the eyes moderate, the post-ocular region rounded, the anterior half impunctate, the posterior closely covered with moderate, somewhat superficial umbilicate punctures; ground-sculpture absent. Antennæ with the 2nd and 3rd joints of equal length, the 4th as long as broad, the 5th to 10th transverse, the penultimate about twice as broad as long. Thorax convex, slightly transverse, the sides gently rounded in front, straight and retracted behind to the obtuse posterior angles, the punctures smaller than those of the head, about as close and obscurely umbilicate, ground-sculpture very feeble. Elytra a little longer and broader than the thorax, rather closely and distinctly more coarsely punctured. Abdomen parallel, a little narrowed at apex, in the impressions coarsely and closely punctured, elsewhere finely and sparingly.

Ghum district. Unique.

NEOLEPTUSA, gen. n.

In build somewhat resembling *Leptusa*, s. str., but in the structure of the mouth-parts etc. quite different. Head rounded, the neck rather thick and concealed by the thorax, the temples strongly and completely bordered below. Labrum, mandibles, and maxillæ scarcely differing from *Leptusa*. Mentum transverse, trapezoidal, truncate in front. Tongue nearly as long as the 1st joint of the labial palpi, split nearly to the base into two narrow pointed lobes. Labial palpi 3-jointed, the 1st joint cylindrical, 2nd narrower and about half as long, 3rd narrower and a little longer than the 2nd, the apex rounded. Thorax a little transverse, the pronotal epipleura scarcely visible from the side. Mesosternum with a fine, rather obsolete keel along the middle, its process acute

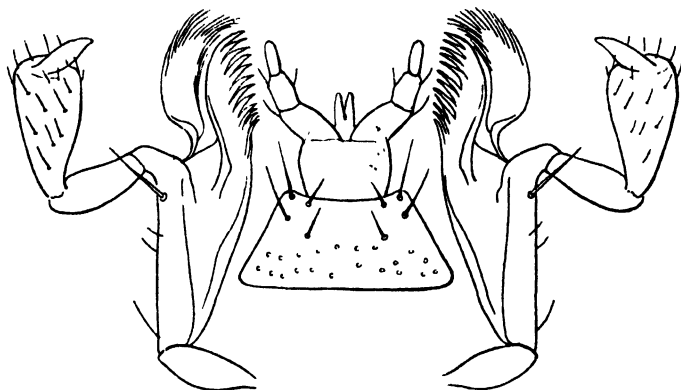


Fig. 77.—*Neoleptusa brunnea*, maxillæ and labium.

and similarly keeled, extending beyond the middle of the coxæ, these narrowly separated. Metasternal process separated from the mesosternal by a short intersternal piece. Elytra emarginate postero-externally. Legs moderate, the tibiæ ciliate. Tarsi 4, 4, 5; the anterior and middle with the first three joints short, subequal, the 4th longer than the preceding together; posterior with the 1st joint slightly longer than 2nd, 2nd to 4th short, subequal. Abdomen with the first three visible segments distinctly transversely impressed at their base, the ground-sculpture forming a squamous pattern.

1695. *Neoleptusa brunnea*, sp. n.

Rather shining, finely pubescent, the head black, the rest reddish-brown, with the 4th and 5th (visible) abdominal segments largely blackish. Antennæ reddish-brown, the first three joints reddish-yellow. Legs reddish-yellow. Length 3 mm.

Rather narrow, parallel, and subconvex. Head narrower than the thorax, the eyes moderate, very finely, not very closely punctured, very finely coriaceous. Antennæ short and stout, the 3rd joint a little shorter than the 2nd, the 4th to 10th transverse, the penultimate three times as broad as long. Thorax about a third broader than long, the sides gently rounded, a little more retracted behind, the posterior angles obtuse, the sides of the base obliquely truncate, very finely, more closely punctured than the head, very finely coriaceous. Elytra a little longer and broader than the thorax, closely, less finely, somewhat asperately punctured. Abdomen a little narrowed at apex, very finely, rather closely punctured in front, more sparingly behind, forming a squamous pattern. No secondary ♂ characters are present in the numerous examples I have examined.

Widely distributed in the Simla, Chakrata, and Mussooree districts; also in Kashmir, Gulmarg. Under bark.

SULEPTA, gen. n.

In facies somewhat resembling *Atheta sodalis* Er. but in structure near *Leptusa*. Temples bordered below; pronotal epipleura visible from the side; mesosternum not keeled.

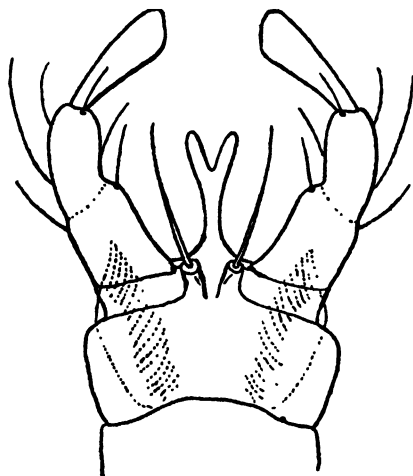


Fig. 78.—*Sulepta kashmirica*, labium.

Labial palpi indistinctly 3-jointed. Tongue narrow, a little longer than the 1st joint of the labial palpi and split for about a third its length into two narrow diverging lobes. In other respects like *Leptusa*.

1696. *Sulepta kashmirica*, sp. n.

Shining, the head and abdomen black, the posterior margins of the first three segments very narrowly and obscurely reddish; thorax yellowish-red; elytra brownish-yellow, obscurely infusate postero-externally. Antennæ black, the first two joints and the legs reddish-yellow. Length 3.75 mm.

Head a good deal narrower than the thorax, the eyes rather large, finely, superficially and sparingly punctured and with a very fine coriaceous ground-sculpture. Antennæ rather stout, the 2nd and 3rd joints of equal length, 4th as long as broad, 5th to 10th transverse, the penultimate about twice as broad as long, the 11th as long as the preceding two together. Thorax about a third broader than long, the sides rounded in front, more retracted behind, the posterior angles obtusely rounded, the puncturation fine, closer than on the head, ground-sculpture very fine. Elytra broader and about a half longer than the thorax, finely, closely and asperately punctured. Abdomen parallel, finely, rather sparingly punctured throughout. The whole insect with a fine yellow pubescence.

♂: 7th segment with a small tubercle in the middle before the posterior margin; 8th broadly feebly emarginate and finely crenulate, on each side with a larger denticle, the surface with numerous small granules and coriaceous.

Kashmir: Gulmarg.

Genus **PHYMATURA** Sahlb.

Phymatura Sahlb., Enum. Col. Brach. Fenn. 1876, p. 85; id., Act. Soc. Faun. Flor. Fenn. i, 1878, p. 85; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 266; Everts, Col. Neerl. i, 1898, p. 233; Casey, Trans. Ac. St. Louis, xvi, 1906, pp. 262, 264; Reitt., Faun. Germ. ii, 1909, p. 79; Fenyès, Gen. Ins. 173 B, 1920, p. 116; Portevin, Encycl. Ent. A, xii, 1929, i, p. 299; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 72.

Somewhat resembling *Silusa* in build but allied to *Bolitochara*. Elongate, rather convex. Head but little retracted behind, the neck broad and concealed by the thorax; eyes rather large; temples strongly and completely bordered. Labrum transverse, very slightly emarginate in front, the anterior angles rounded. Mandibles rather prominent, slender, pointed, the right with a small tooth about the middle of the inner border. Outer lobe of maxilla membranous, ciliate at apex; inner lobe corneous, narrower and pointed, closely dentate along the inner border, the teeth longer behind. Maxillary palpi 4-jointed, the 1st joint small, 2nd elongate, slightly thickened towards apex, 3rd a little longer and a little thicker apically, 4th subulate, fully half as long as the 3rd. Mentum transverse, trapezoidal, truncate in front. Tongue

narrow and elongate, nearly reaching the level of the apex of the 2nd joint of the labial palpi, its tip with two small appendages. Labial palpi indistinctly 3-jointed, the 1st joint short and stout, 2nd narrower but scarcely shorter, 3rd yet narrower, long, almost as long as the 1st and 2nd together, its apex rounded. Thorax transverse, pronotal epipleura not visible from the side. Prosternum carinate in the middle in front. Mesosternum finely keeled at base, its process acute and extending nearly the whole length of the coxæ, these moderately separated. Metasternal process pointed, reaching the mesosternal. Legs slender, tibiæ ciliate. Tarsi 4, 4, 5; the anterior with the first three joints short, subequal, 4th a little longer than the first three together; middle with the first three joints a little longer, subequal, the 4th a little longer than the first three together; posterior with the 1st joint moderately long, as long as the 2nd and 3rd together,

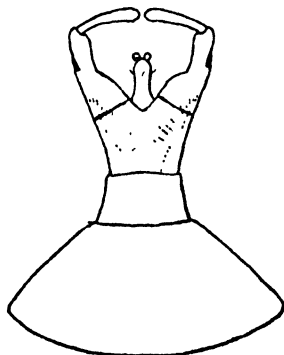


Fig. 79.—*Phymatura aspericeps*, labium.

2nd to 4th of equal length, 5th a little longer than the 3rd and 4th together. Elytra sinuate behind. Abdomen with the first three visible segments transversely impressed at base. The species are found in fungus.

Key to the Species.

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1. Head finely and sparingly punctured | 2. |
| Head closely covered with granules; dull species | <i>aspericeps</i> , sp. n., p. 221. |
| 2. Thorax reddish-brown, all the margins distinctly reddish-yellow | <i>picta</i> , sp. n., p. 219. |
| Thorax uniformly coloured, at most with the posterior margin narrowly and obscurely lighter | 3. |
| 3. Antennæ except base dark reddish-brown, the 11th joint concolorous, shorter, the 4th joint distinctly transverse; thorax more closely punctured and less shining, red | <i>jucunda</i> , sp. n., p. 220. |

Antennæ reddish, the 11th joint bright reddish-yellow, longer, the 4th joint scarcely transverse; thorax less closely punctured and more shining, varying from red to dark brown *intermedia*, sp. n., [p. 221.

1697. *Phymatura picta*, sp. n.

Moderately shining, finely yellow pubescent, the head black; thorax reddish-brown, with all the margins narrowly reddish-yellow; elytra bright yellow, with the postero-external region (including the reflexed margin) black. Abdomen with the first two visible segments yellowish-red, infusate along the middle, the following brown, with the posterior margins narrowly reddish-yellow. Antennæ reddish, the first three joints reddish-yellow. Legs reddish-yellow. Length 3.5 mm.

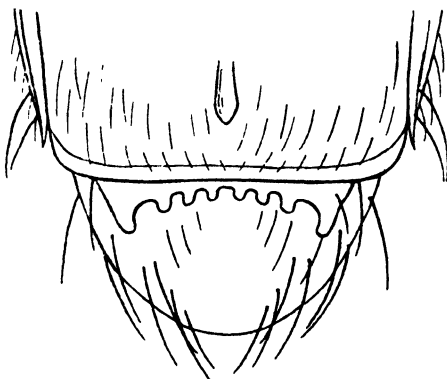


Fig. 80.—*Phymatura picta*, ♂, apex of abdomen.

In build much resembling *brevicollis* Kr. Head a good deal narrower than the thorax, with large eyes, the temples converging behind, very finely and not closely punctured, finely coriaceous. Antennæ with the 2nd and 3rd joints of equal length, 4th about as long as broad, 5th to 10th transverse, the penultimate about half as broad again as long, 11th elongate, conical, a little longer than the two preceding together. Thorax about half as broad again as long, widest about the middle, the sides rounded and a little more retracted in front than behind, the posterior angles rounded, the base at the sides obliquely truncate, foveate before the scutellum, finely, roughly, more closely punctured than the head; ground-sculpture fine. Elytra about a half longer and a little broader than the thorax, finely and roughly but more closely punctured. Abdomen a little narrowed at apex, closely and finely punctured, less closely behind.

♂: 7th dorsal segment with a short median keel at the posterior border; 8th with a little tubercle in the middle, the posterior border broadly emarginate and with eight or nine blunt teeth, the outer ones a little larger than the median.

Simla Hills: Gahan, Narkanda, alt. 7000-9000 feet. Kashmir: Gulmarg, alt. 8000 feet. The example from Kashmir is darker in colour, but the ♂ and other characters appear similar.

1698. *Phymatura jucunda*, sp. n.

Moderately shining, finely yellow pubescent; head black; thorax yellowish-red; elytra yellow, with a large blackish

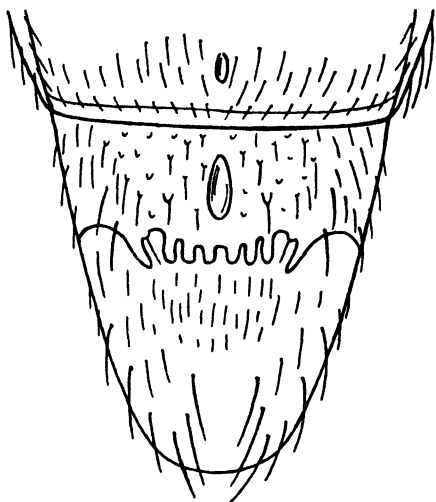


Fig. 81.—*Phymatura jucunda*, ♂, apex of abdomen.

marking postero-externally as in the preceding species; abdomen pitchy-black, the first visible segment and posterior margin of the 5th yellowish-red. Antennæ brown, the first three joints reddish-yellow. Legs reddish-yellow. Length 2.75-3.1 mm.

Similar in build to *picta* but smaller and less robust, the thorax more brightly and uniformly coloured, more finely punctured, elytra less brightly coloured, more finely punctured. Antennæ a good deal shorter.

♂: 7th dorsal segment with a short keel at the middle of the posterior margin; 8th with an elongate median tubercle, its posterior margin truncate and furnished with seven or eight short straight spines, externally on each side with

a slightly incurved one ; suture of the elytra on each side at the posterior third with a little tubercle.

Simla Hills : Gahan, Kotgarh. Chakrata district : Sainj Khud, Kanasar. Mussooree district : Arni Gad, alt. 6000-7050 feet.

1699. *Phymatura intermedia*, sp. n.

Very like *jucunda*, but differs in the longer, lighter coloured antennæ, the 11th joint bright reddish-yellow ; the thorax varies from bright ferruginous-red to dark brown. In the ♂ the elytra have no tubercle, the 7th and 8th tergites have each a minute tubercle, and the posterior margin of the 8th is furnished in the middle with six small processes which are

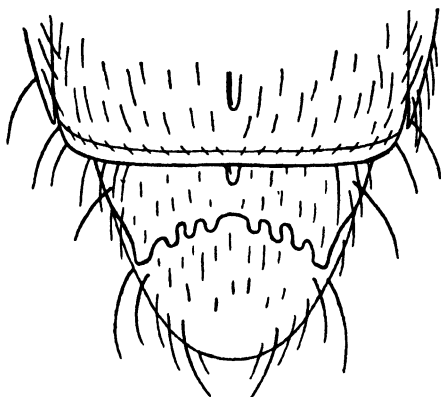


Fig. 82.—*Phymatura intermedia*, ♂, apex of abdomen.

shorter than in *jucunda* and more dentiform, on each side there is also a slightly larger tooth.

Ghum district : Rongdong Valley ; Lepchajagat.

1700. *Phymatura aspericeps*, sp. n.

Nearly dull, finely pubescent, the head black, the rest dark pitchy-brown, the thorax with the side-margins and base, the elytra with the base and apical margin, the abdomen with the posterior margins of the segments narrowly and obscurely reddish, occasionally with the reddish colour of the base of the elytra more or less extended along the sutural region. Antennæ black, the first two joints and the last brownish-yellow. Legs reddish-yellow, the tibiæ infusate. Length 2.8 mm.

In size and build very similar to *jucunda*, but at once distinguished from all our species by the sculpture of the head, which is closely covered with moderately small, close granules ;

the antennæ are a good deal longer and thinner than in *jucunda*, the 4th and 5th joints being as long as broad, the 6th to 10th less transverse; the thorax before the base has a small superficial impression and, like the head, is closely covered with granules which are much less fine than in *jucunda*. Elytra about a third longer than the thorax, closely, finely asperately punctured. Abdomen finely and closely punctured.

♂ : 7th dorsal segment with a long keel in the middle of the posterior half; 8th with a median tubercle, the posterior

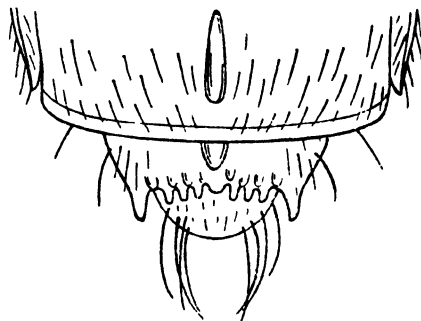


Fig. 83.—*Phymatura aspericeps*, ♂, apex of abdomen.

margin with eight or nine little teeth, the external one on each side the largest. Elytra with a little tubercle on each side of the suture at the posterior third.

Ghum district : Rongdong Valley.

Genus **BOLITOCCHARA** Mannerh.

Bolitochara Mannerh., Mém. Acad. Sc. St. Petersb. i, 1830, p. 489; Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 431; Er., Kaf. Mark Brandenb. i, 1837-39, p. 296; id., Gen. Spec. Staph. 1839-40, p. 57; Redtb., Faun. Austr. ed. i, 1849, p. 651, ed. ii, 1858, p. 122, and ed. iii, 1874, p. 130; Lacord., Gen. Col. ii, 1854, p. 30; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 36; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 8; Thoms., Skand. Col. ii, 1860, p. 272; Muls. et. Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. v, 1871, p. 194; Olliff, Proc. Linn. Soc. N. S. Wales (2) i, 1886, p. 412; Fowler, Col. Brit. Isl. ii, 1888, p. 167; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 262; Everts, Col. Neerl. i, 1898, p. 232; Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, p. 263; Reitter, Faun. Germ. ii, 1909, p. 78; Blatchley, Col. Indiana, i, 1910, p. 344; Johansen, Danmarks Rovbiller, 1914, p. 245; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 713; Portevin, Encycl. Ent. A, xii, 1929, i, p. 298; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 72.

Subgen. *Bolitochara* Cas., Trans. Acad. St. Louis, xvi, 1906, p. 262; Fenyès, Gen. Ins. 173 B, 1920, p. 111.

Subgen. *Ditropalia* Cas., l. c. pp. 262, 263; Fenyès, l. c. p. 114; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 713.

Pleurotobia Cas., l. c. pp. 262, 263.

Stictalia Cas., l. c. pp. 262, 269.

Venusia Cas., l. c. pp. 262, 272.

Ilyobates Cas., Bull. Cal. Acad. Sci. i, 1885, p. 307.

Body moderately convex and parallel. Head prominent, more or less orbicular, rounded, and retracted behind the eyes to the moderately broad neck. Temples either incompletely or completely and strongly bordered below; gular sutures distant, parallel or nearly so. Labrum transverse, truncate or very slightly emarginate in front, the anterior angles rounded. Mandibles pointed, edentate. Maxillary palpi 4-jointed, rather long, the 1st joint very small, 2nd gradually and slightly thickened towards apex, 3rd longer than the 2nd and a little more thickened apically, 4th subulate, about half as long as the 3rd. Inner lobe of the maxilla narrow, pointed, incurved at apex, and with numerous short spines along the inner border, pubescent towards the base; outer lobe narrowed at apex and closely pubescent. Mentum trapezoidal, the anterior border truncate or feebly emarginate. Tongue narrow and elongate, split at apex, reaching to about the middle of the 2nd joint of the labial palpi. Paraglossæ distinct, ciliate, extending to the apex of the 1st joint of the labial palpi. Labial palpi distinctly 3-jointed, the 1st joint stout, cylindrical, 2nd shorter and narrower than the 1st, 3rd longer and narrower than the 2nd. Thorax transverse, the sides and base finely bordered, the pronotal epipleura visible from the side. Prosternum triangular, carinate along the middle. Mesosternum and its process carinate, the latter pointed and extending about two-thirds the length of the coxæ, meeting the rounded apex of the metasternal process. Coxæ moderately separated. Elytra distinctly emarginate postero-externally. Legs rather slender, the tibiæ ciliate. Tarsi 4, 4, 5; the anterior with the first three joints short and subequal, the 4th as long as the preceding three together; middle with the first three joints longer, the 1st a little shorter than the 2nd and 3rd, these of equal length, the 4th as long as the preceding three together; posterior with the 1st joint as long as the 2nd and 3rd together, 2nd to 4th gradually decreasing in length, the 5th longer than the 3rd and 4th together. Abdomen narrower than the elytra, the first four visible segments transversely impressed at their bases. The genus is widely distributed and is found in fungus.

Key to the Subgenera.

Temples only bordered below in front	BOLITOCHARA, s. str.,
Temples strongly and completely bordered	[Cas.,
below	DITROPALIA Cas.,
	[p. 224.

The one species of our Fauna is referable to *Ditropalia*.

1701. *Bolitochara (Ditropalla) indica*, sp. n.

Shining, black, the posterior margins of the abdominal segments very narrowly and obscurely reddish, the elytra with more or less obscure indeterminate brownish-yellow fascia extending from the shoulders to and along the posterior third of the suture, the posterior margin also very narrowly yellow. Antennæ black, the first two joints and apex of the 11th reddish-yellow. Legs reddish-yellow, the femora and tibiæ slightly infuscate in the middle. Length 4 mm.

Somewhat resembling *Mulsanti* Shp. in build, but differs in the thorax having the sides evenly rounded, not sinuate before the posterior angles, the colour, thinner antennæ, and entirely different puncturation. Head a good deal narrower than the thorax, the eyes rather large, extremely finely and very sparingly punctured. Antennæ with the 3rd joint as long as 2nd, 4th as long as broad, 5th to 10th transverse, the penultimate about a half broader than long, the 11th oviform, as long as the preceding two together. Thorax transverse, the sides evenly rounded, more retracted in front, the posterior angles obtusely rounded, extremely finely, sparingly punctured, like the head. Elytra broader and a third longer than the thorax, moderately coarsely and moderately closely but not roughly punctured. Abdomen closely and moderately coarsely punctured at the base of the segments, finely and rather sparingly elsewhere. Pubescence throughout yellow, not very close.

♂: posterior third of the suture keeled on each side; 7th dorsal segment with strong median keel throughout; 8th with the posterior border feebly emarginate and feebly crenulate, the surface with a few small scattered granules.

Ghum district.

Genus **PSEUDATHETA** Cam.

Pseudatheta Cam., Trans. Ent. Soc. Lond. 1920, p. 224.

Labrum transverse, the anterior angles rounded. Mandibles rather stout, curved, pointed, the right with a distinct tooth on inner margin. Maxillary palpi 4-jointed, the 1st joint small, 2nd elongate, gradually thickened towards the apex, 3rd slightly longer and stouter than the 2nd, 4th subulate, fully half as long as the 3rd. Inner lobe of the maxilla narrow, lightly incurved and pointed at the apex, pectinate internally; outer lobe broader than the inner, narrowed and pointed at the apex, which is ciliate. Mentum trapezoidal, truncate in front. Tongue narrow and elongate, nearly extending to the level of the apex of the 2nd joint of the labial palpi, bifid at the extremity. Paraglossæ distinct, ciliate, not extending

beyond the apex of the tongue. Labial palpi 3-jointed, the 1st joint moderately long, cylindrical, indistinctly obliquely truncate at apex, the 2nd narrower and about half as long as the 1st, the 3rd narrower and about twice as long as the 2nd, cylindrical. Gular sutures distant, slightly divergent behind. Temples strongly bordered below. Prosternum broadly rounded behind. Mesosternal process narrow and pointed, extending two-thirds along the coxæ, which are narrowly separated. Metasternal process rounded at the apex and meeting the mesosternal. Tarsal formula 4, 4, 5; the first pair of tarsi with the first three joints short and subequal, the 4th longer than the preceding three together; the second pair with the first two joints short and subequal, the 3rd a little longer, the 4th longer than the preceding three together; the third pair with the 1st joint moderately elongate, slightly

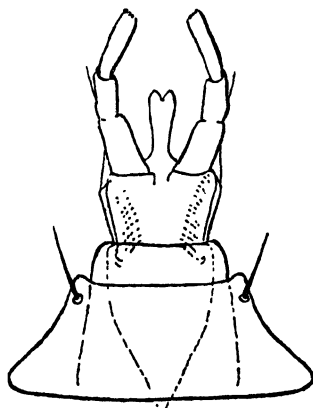


Fig. 84.—*Pseudatheta elegans*, labium.

longer than the 2nd, the 2nd, 3rd, and 4th gradually decreasing in length, the 5th longer than the preceding two together. Thorax transverse, the pronotal epipleura not visible from the side. Abdomen with the first two segments transversely impressed at the base. Elytra sinuate internal to the postero-external angle. Superficially the species on which this genus is founded might be taken for an *Atheta* of the *nigritula* group.

Key to the Species.

Larger (2 mm.), more robust, less shining, more coarsely punctured, the abdomen more infusate	<i>indica</i> , sp. n., p. 226.
Smaller (1.75 mm.) and narrower, more shining, more finely punctured; abdomen less infusate	<i>elegans</i> Cam., p. 226.
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1702. *Pseudatheta elegans*. (Plate I, fig. 10.)

Pseudatheta elegans Cam., Trans. Ent. Soc. Lond. 1920, p. 225 ;
id., Bull. Ann. Soc. Ent. Belge, lxxii, 1932, p. 141 (note).

Rufo-testaceous, moderately shining, the head often blackish, the elytra (except the base), the posterior half of the 5th and the whole of the 6th (3rd and 4th visible) abdominal segments black ; the first three joints of the antennæ and the legs testaceous, the rest of the antennæ reddish. Length 1.75 mm.

Head transversely orbicular, darker in colour than the thorax ; eyes moderate ; very finely and indistinctly punctured, very finely coriaceous, finely pubescent. Antennæ moderate, the first three joints subequal, the 4th to the 10th transverse, the penultimate two and a half times as broad as long, the 11th large, oblong-oval, longer than the preceding two together. Thorax transverse, half as broad again as long, widest just before the middle, the sides bordered, narrowed and rounded anteriorly, converging posteriorly in a nearly straight line to the obtuse posterior angles, the base bordered and feebly sinuate on either side ; puncturation fine, asperate and moderately close, finely pubescent. Scutellum ferruginous, transverse, very finely punctured. Elytra transverse, a little longer and broader than the thorax, black, the base more or less rufo-testaceous, very finely, closely and asperately punctured, finely pubescent. Abdomen a little narrowed behind, the first four visible segments very finely and rather closely punctured and pubescent, the last two segments much more sparingly punctured.

♂ : suture of elytra elevated posteriorly and on either side with a small tubercle. 7th abdominal segment with two more or less transverse rows of small tubercles ; 8th abdominal segment truncate, the margin very obscurely crenulate, the surface finely granulate.

Siwaliks : Nakraunda. Also in Singapore. The insect is found in *Polyporus*, rotten wood, etc.

1703. *Pseudatheta indica*, sp. n.

Larger (2 mm.) and much more robust than *elegans*, less shining, but similarly coloured, except that the 2nd to 5th (visible) abdominal segments are infusate ; the antennæ are shorter than in *elegans*, similarly constructed, reddish-brown, with the first three joints reddish-yellow. The head is closely and much more distinctly punctured than in *elegans*, the thorax and elytra are similarly but more strongly punctured than in that species, and the abdomen on the first four segments is less finely and more closely punctured.

♂: elytra on each side of the suture a little behind the middle with a minute, scarcely perceptible tubercle; 7th dorsal segment with a short keel in the middle near the posterior margin; 8th with six little teeth on the posterior margin and a larger one on each side; this segment is retracted so that the upper surface is invisible.

Mussooree district: Mossy Falls, alt. 6000-7000 feet.

Genus **ECCOPTOGENIA** Kr.

Eccoptogenia Kr., Arch. Naturg. xxv, 1859, p. 8; Eichelb., Mem. Soc. Ent. Belge, xvii, 1909, p. 219; Fenyos, Gen. Ins. 173 A, 1918, p. 85.

Head large, nearly as wide as the thorax, constricted at the base, exserted, the eyes small. Temples not bordered below. Labrum membranous, semicircular, and with a few hairs. Mandibles small, curved, pointed, edentate. External lobe of the maxilla corneous, pubescent at apex; the internal lobe corneous, obliquely truncate at apex, the inner border with six or seven little spines and a larger one behind the middle. Maxillary palpi 4-jointed, the 3rd a little longer and stouter than the 2nd, the 4th small, subulate. Mentum slightly transverse, narrowed in front, the anterior border deeply excised. Tongue short, bifid at apex; paraglossæ distinct. Labial palpi 2-jointed, the 1st joint wider at the base, 2nd a little shorter, a little narrower at the base, the apex truncate. Thorax transverse, the pronotal epipleura visible from the side. Mesosternal process acutely pointed, extending about half the length of the coxæ, these very narrowly separated. Metasternum with an oval impression along the middle. Elytra truncate. Abdomen parallel, the first visible segment constricted at the base, the first four distinctly transversely impressed at their bases, the impressions more coarsely punctured than elsewhere; first three ventral segments slightly constricted at their bases. Legs short. Tarsi 4, 4, 5 (not 4, 5, 5 as stated by Kraatz); the anterior and middle with the first three joints short, the 4th joint of the middle pair as long as the preceding three together, the posterior with the first four joints subequal, almost broader than long. This genus is only represented by a single species.

1704. **Eccoptogenia rufa.**

Eccoptogenia rufa Kr., Arch. Naturg. xxv, 1859, p. 9, tab. 1, figs. 1, 1 a, 1 b, 1 c.

Moderately shining, red. Antennæ and legs reddish-yellow. Length 1.8 mm.

A small parallel species. Head round, nearly as wide as the thorax, constricted at the base, coarsely and closely punctured, the eyes small. Antennæ stout, the 2nd joint a little shorter than the 1st, the 3rd much smaller than the 2nd, subquadrate, the 4th to 10th transverse, scarcely increasing in width, the 11th a little shorter than the preceding two together, pointed. Thorax slightly transverse, the sides rounded in front, retracted and a little sinuate behind to the obtusely rounded posterior angles, the disc behind with four little impressions close together and placed quadrately, in the middle line near the anterior border with another: sculpture as on the head. Elytra about as long and as broad as the thorax, closely and yet more coarsely punctured than the thorax. Abdomen a little more shining than the fore-parts, parallel coarsely punctured in the basal impressions, finely, sparingly and asperately elsewhere, but rather more closely on the 7th segment.

♂: according to Kraatz the elytra are a little shorter than in the ♀.

Ceylon. The above description is taken from a co-type in the British Museum.

Genus **EUSTENIA** Fauv.

Eustenia Fauv., Rev. d'Ent. xxiv, 1905, p. 145; Fenyès, Gen. Ins. 173 B, 1920, p. 120.

Nearest to *Sipalia* Rey, but with the penultimate joint of the maxillary palpi broader and shorter, ovate, the 2nd joint of the antennæ almost broader than the 1st; head less produced in front, thorax strongly dilated before the middle, then very strongly constricted to the base; scutellum very small, scarcely visible; abdomen remarkable, broad and clavate, narrowly pedunculate at the base, the 2nd segment concave above, 3rd to 4th deeply transversely sulcate at the bases; anterior coxæ contiguous, the intermediate scarcely, the posterior a little separated; prosternum short, between the coxæ somewhat angularly produced and carinulate, the mesosternum also carinulate; metasternum narrow, the apex truncate; legs rather robust, the tarsi short, the anterior and intermediate with four, the posterior with five joints, the 1st joint of the latter scarcely longer than the 2nd. The genus is remarkable for its pedunculate abdomen, the thorax strongly constricted behind as in *Amaurodera*. It consists of half a dozen species having a facies somewhat like certain *Falagria* and *Borboropora* (ex Fauvel).

This genus is perhaps identical with *Eusteniamorpha*, the tarsal formula is, however, different, as is also that of the mesosternum, according to the author's description.

1705. *Eustenia opacicollis*.*Eustenia opacicollis* Fauv., Rev. d'Ent. xxiv, 1905, p. 146.

A little smaller than *aspera*, the head and thorax dull, very closely, very finely and roughly punctured, the elytra and abdomen shining, the anterior part of the front smooth and shining. Pitchy, the 1st joint of the antennæ, palpi and 2nd to 4th abdominal segments obscurely yellow, legs yellow; 11th joint of the antennæ much longer, conical; thorax before the middle rounded and dilated, less constricted behind, the longitudinal sulcus much smaller, narrow, scarcely widened behind; elytra smaller, from base to apex rounded and somewhat narrowed, rather sparingly, scarcely visibly punctured, the pubescence smoky-brown; abdomen with longer pubescence, closely and very finely punctured, the basal segments scarcely carinulate, 6th smooth. Length $1\frac{1}{2}$ – $1\frac{3}{4}$ mm.

Sexual differences unknown.

Burma (*Helper*). Also Buitenzorg in Java (ex *Fauvel*).Genus **CALODERINA** Ganglb.

Caloderina Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 266; Fenyès, Gen. Ins. 173 B, 1920, p. 113; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 713; Portevin, Encycl. Ent. A, xii, 1929, i, p. 298.

Facies somewhat resembling *Calodera* Mannerh. The head prominent, slightly constricted behind, the eyes not large or prominent, the temples not distinctly margined below. Antennæ rather short, thickened towards the apex, the 3rd joint shorter than the 2nd, the 4th slightly, the following gradually increasing in width, the penultimate twice as broad as long, the 11th large, oviform, bluntly pointed. Labrum transverse, with gently rounded anterior border and broadly rounded anterior angles. Mandibles scarcely prominent, the right with a small tooth at the middle of the inner border and finely denticulate in front of it, the left simple. Inner lobe of the maxilla towards the apex of the inner margin with about ten fine, lightly curved spines, behind them in the membranous part not very densely pubescent, the outer lobe with the apex membranous and finely pubescent. Maxillary palpi rather slender, the 3rd joint longer than the 2nd, slightly clubbed towards apex, the 4th slender, scarcely half as long as the 3rd. Mentum transverse, trapeziform, broadly emarginate in front. The tongue delicate, membranous, narrow and parallel, about as long as the 1st joint of the labial palpi, its apex divided for about the anterior third. Paraglossæ not distinctly projecting. Labial palpi distinctly 3-jointed, the 1st joint gradually narrowed towards the apex, 2nd shorter than the 1st but scarcely narrower than the latter at its apex,

the 3rd as long but much narrower than the 2nd, its apex rounded. Thorax narrower than the elytra, slightly transverse, behind scarcely, in front gently rounded and narrowed, its anterior border truncate, the base lightly arcuately rounded, slightly convex, with strongly deflexed anterior angles and slightly rounded posterior ones, the lateral margin strongly deflexed, the pronotal epipleura visible from the side. Elytra a little longer than the thorax, with somewhat prominent shoulders, strongly emarginate postero-externally. Abdomen rather parallel, the first three visible dorsal segments deeply impressed at their bases transversely. Prosternum short in front of the anterior coxæ, projecting between them in a sharp angle. Mesosternal process pointed, extending beyond the second third of the coxæ. Inner border of episterna of the metathorax converging behind with the lateral border of the elytra, the epimera of the metathorax covered by the elytra. Legs rather slender. Anterior tarsi with the first three joints short, equal, together as long as the 4th : the middle with the joints much longer, the 1st longer than the 2nd, the 2nd and 3rd of equal length, the 4th almost as long as the first three together ; the still longer posterior tarsi with the 1st joint almost as long as the following two together, the 2nd, 3rd, and 4th of equal length, the 5th almost as long as the three preceding together (ex *Ganglbauer*).

1706. *Caloderina indica*, sp. n.

Shining, yellowish-red, the 4th and 5th (visible) abdominal segments (except the posterior margins) blackish. Antennæ and legs reddish-yellow. Length 2.5 mm.

In build very similar to *hierosolymitana* Sauley, but with differently coloured head and abdomen and more sparingly punctured fore-parts. Head suborbicular, distinctly narrower than the thorax, extremely finely and very sparingly punctured. Antennæ with the 3rd joint a little shorter than the 2nd, 4th as long as broad, 4th to 10th transverse, gradually increasing in width, the penultimate twice as broad as long, the 11th oviform, a little longer than the preceding two together. Thorax a little transverse, the sides as seen from above feebly rounded in front, straight and very slightly retracted behind, the posterior angles rounded, extremely finely sparingly punctured. Elytra broader and a little longer than the thorax, rather finely, asperately and not very closely punctured. Abdomen a little narrowed before the apex, closely, moderately coarsely punctured at the bases of the segments, much more finely and sparingly elsewhere. The whole insect covered with a moderately close yellow pubescence.

Ghum district : Mangpu.

Genus **TACHYCHARA** Cam.

Tachychara Cam., E. M. M. (3) vi, 1920, p. 52.

Labrum transverse, the anterior margin slightly rounded. Maxillary palpi with 1st joint small, 2nd elongate, slightly curved and thickened towards apex, 3rd about as long as 2nd but thicker at the apex, 4th subulate, one-half as long as the preceding. Inner lobe of the maxilla strongly pectinate, outer lobe densely ciliate at apex. Tongue nearly reaching the level of the apex of the 1st joint of the labial palpi, split nearly to the base into two narrow diverging lobes. Labial palpi 3-jointed, 1st joint moderately long and stout, cylindrical, the 2nd much shorter, scarcely longer than broad, the 3rd elongate, longer but much narrower than the 1st. Gular sutures distant, slightly divergent behind. Temples not bordered below. Prosternum broadly truncate behind. Mesosternal process acuminate, extending about half the length of the coxæ, which are narrowly separated; metasternal process bluntly pointed, not quite reaching the mesosternum. Tarsal formula 4, 4, 5; anterior pair with the 1st joint rather long, equal to the two following together, which are short and subequal, 4th elongate; middle pair with the 1st joint elongate, twice as long as the two following together, which are short and subequal, 4th joint elongate, shorter than the 1st; posterior pair with the 1st joint elongate, as long as the four following united, the 2nd rather short, as long as the 3rd and 4th together, these short and subequal, 5th elongate. Tibiæ ciliate.

Closely allied to *Tachyusida* Muls. et Rey, rather similar in build, but with the abdomen more parallel, longer 1st joint of the middle and posterior tarsi, and shorter penultimate ones.

1707. **Tachychara discipennis.**

Tachychara discipennis Cam., E. M. M. (3) vi, 1920, p. 53.

Elongate, parallel, greasy lustrous, the head black, the thorax and abdomen pitchy-brown or reddish, the 4th and 5th (visible) segments of the latter darker; elytra brownish-yellow, the base and side-margins more or less infusate. Antennæ reddish-brown, the first three joints reddish-yellow. Legs reddish-yellow. Length 4 mm.

Head transverse, suborbicular, narrower than the thorax, the eyes large and rather prominent, the temples rounded and contracted behind to the broad neck; the surface, except the anterior portion, coarsely and very closely punctured. Antennæ rather long, the 2nd and 3rd joints of equal length, the 4th to the 10th all longer than broad, the 5th, 6th, and 7th a little longer than the 4th, the 8th, 9th, and 10th gradually

decreasing in length, the 11th elongate, pointed, nearly as long as the preceding two together. Thorax broader than the head, about one-third broader than long, the sides rounded in front, contracted and a little sinuate behind, the posterior angles obtuse and prominent; the disc usually with a very fine median line at the base, scarcely traceable beyond the middle, and on either side with a minute fovea and another some distance anterior and external to it, sometimes with another in line with the first and some distance from it, so that the disc presents four quadrately placed punctures; puncturation very close, but much finer than that of the head. Scutellum brown, closely punctured. Elytra as long as, but broader than, the thorax, transverse, not sinuate at the postero-external angles; puncturation fine and close, finely pubescent. Abdomen parallel, very closely and finely punctured and pubescent, a little more sparingly behind.

Ceylon: Dikoya, alt. 3800–4200 feet (*G. Lewis*). India: Nilgiri Hills. Also in the Malay Peninsula and Java.

Tribe 11. MYRMEDONIINI.

Myrmedoniini Ganglb., *Kaf. Mitt.-Eur.* ii, 1895, p. 106; Casey, *Trans. Acad. Sci. St. Louis*, xvi, 1906, p. 183; Reitter, *Faun. Germ.* ii, 1909, p. 39; Blatchley, *Col. Indiana*, i, 1910, p. 344; Fenyès, *Gen. Ins.* 173 B, 1920, p. 142; Cam., *Trans. Ent. Soc. Lond.* 1920, pp. 350, 359; Portevin, *Encycl. Ent. A*, xii, 1929, i, pp. 227, 251; Scheerp., *Kol. Rundsch.* xv, 1929, p. 8; id., *Tierwelt Mitteleur.* v, 2, 1930, p. 72.

Myrmedoniina Sharp, *B. C.-A.* i, 2, 1882–87 (1883), p. 170; Fowler, *Col. Brit. Isl.* ii, 1888, p. 51; Johansen, *Danmarks Rovbiller*, 1914, p. 88.

Myrmedoniaires Muls. et Rey, *Hist. Nat. Col. Fr. Brévip. Aléoch.* iii, 1873, p. 7, iv, 1875, p. 1.

Digrammini Fauv., *Rev. d'Ent.* xix, 1900, p. 123.

A large tribe of polymorphic species and various habits. Characterized by the anterior tarsi of four and the middle and posterior of five joints, the inner lobe of the maxilla membranous internally, the head, except in certain species of *Zyras*, not produced in front, the maxillary palpi 4-, the labial 2- or more or less distinctly 3-jointed, and not styliiform in any of the Indian genera so far known.

Key to the Genera.

1. First three visible dorsal abdominal segments deeply and broadly excavated at their bases; antennæ clavate [p. 457.]
TETRABOTHRUS Bernh.,
- The first or first two three or four visible segments normally transversely impressed at their bases, rarely the 1st segment without impression (*Mimoxypoda*, *Rhopalinda*, *Demerinda*) 2.

2. Prosternum behind the coxal cavities completely chitinized; thorax cordiform or strongly constricted behind. 3.
- Prosternum behind the coxal cavities at least partly membranous 4.
3. Elytra at the base between the shoulders and scutellum with a fovea; sides and base of thorax immarginate; pronotal epipleura not visible from the side CORDALIA Jacobs, p. 225.
- Elytra without basal fovea; sides and base of thorax distinctly bordered; pronotal epipleura visible from the side [p. 242.
4. Labial palpi distinctly 3-jointed FALAGRIA Mannerh., 5.
- Labial palpi 2- or indistinctly 3-jointed 29.
5. Anterior tergites of abdomen without transverse basal unpression; termitophilous species 6.
- At least the 1st tergite impressed 7.
6. Elytra with the lateral margin strongly carinate; antennæ strongly clavate. RHOPALINDA Cam., p. 238.
- Elytra not carinate laterally; antennæ not clavate DEMERINDA Cam., p. 240.
7. First three abdominal sternites transversely sulcate or constricted at their bases 8.
- Sternites not sulcate or constricted .. 10.
8. Neck stout 9.
- Neck slender ALMORIA, gen. n., p. 260.
9. 1st joint of the posterior tarsi fully as long as the 2nd and 3rd together. TACHYUSA Er., p. 263.
- 1st joint of posterior tarsi shorter than the 2nd and 3rd together GNYPETA Thoms., p. 268.
10. Neck narrow 11.
- Neck broad 16.
11. Abdomen more or less parallel 12.
- Abdomen scaphoidal 13.
12. Mesosternal process acute, extending fully half the length of the coxæ; thorax not constricted before the base [p. 262.
- Mesosternal process broadly rounded or truncate; thorax constricted before the base MYRMECOPORA Sauley, [p. 451.
13. Thorax sulcate along the middle AMAURODERA Fauv., 14.
- Thorax not sulcate 15.
14. Thorax deeply and broadly sulcate .. WROUGHTONILLA Wasm., [p. 450.
- Thorax narrowly sulcate PHEIDOLOGITONETES, [gen. n., p. 493.
15. Neck very narrow; 1st joint of posterior tarsi as long as the 2nd and 3rd together; antennæ slender. DEROLEPTUS Bernh., p. 490.
- Neck broader; 1st joint of posterior tarsi a little longer than the 2nd; antennæ stouter, the penultimate joints usually transverse [p. 481.
16. Tongue broad, subtriangular, the apex rounded ORPHNEBIUS Motsch.,
- Tongue more or less deeply bifid at apex or with two little appendages. 17.

17. Middle coxæ contiguous or but narrowly separated 18.
Middle coxæ rather widely separated. 22.
18. Abdomen scaphoidal or much dilated, the chitinous parts reduced, the membranous strongly developed ... JACOBSONELLA Silv., p. 495.
Abdomen normal, parallel, subparallel or acuminate 19.
19. 1st joint of posterior tarsi elongate; only the 1st visible tergite transversely impressed [p. 272.
BRACHYUSA Muls. et Rey,
20. Tongue narrow, oblong, the apex with two small lobes; head in ♂ with two setiferous foveæ 20.
Tongue more or less deeply bifid; head without setiferous foveæ in ♂. JACOBSONIA Cam., p. 420
21. Pubescence on the disc of thorax longitudinal; eyes small or absent; elytra short, apterous 21.
Pubescence on disc of thorax more or less transverse; elytra as long as or longer than the thorax, rarely (subgen. *Ousipalia*) shorter. [p. 276.
SIPALIA Muls. et Rey.,
22. At least the anterior and middle tibiæ spinose 23.
Tibiæ not spinose 27. [p. 553.
23. Abdomen scaphoidal. PEDINOPLEURUS, gen. n.,
Abdomen more or less parallel 24.
24. Thorax broadly impressed along the middle [p. 550.
Thorax not broadly impressed PSEUDOPORUS Wasm.,
25. Antennæ short and stout; all the tibiæ strongly spinose 25.
Antennæ elongate; only the anterior and middle tibiæ spinose. PORUS Westw., p. 549.
26. Thorax with three punctures triangularly placed on each side of the middle 26.
Thorax without such punctures [p. 551.
27. 1st joint of posterior tarsi as long as the 2nd and 3rd together DORATOPORUS Wasm.,
1st joint of posterior tarsi a little longer than the 2nd; facies of certain *Atheta* ACANTHASTILBUS, gen. n.,
28. Temples at least bordered behind; neck stouter [p. 548.
Temples not bordered; neck narrower. 28.
29. Eyes well developed PELIOPTERA Kr., p. 411.
Eyes absent; antennæ strongly clavate ZYRAS Steph., p. 497.
30. Temples bordered ASTILBUS Steph., p. 460.
Temples not bordered; first two joints of posterior tarsi subequal, rather long. 30.
31. Abdomen with reticulate sculpture; 1st visible tergite not transversely impressed [p. 448.
RHOPALETES, gen. n.,
31. [p. 429.
PSEUDOXYPODA, gen. n.,
..... [p. 430.
MIMOXYPODA Cam.,

- Abdomen not reticulate; at least the 1st visible tergite transversely impressed 32.
32. Only the 1st visible tergite impressed. 33.
The first three visible tergites impressed 34.
33. Tongue rather short and broad, split into two diverging lobes MIMACROTONA Cam., p. 424.
Tongue narrow, elongate, undivided . LITOGLOSSA, gen n., p. 427.
34. Sculpture coarse and rugose; tongue short, parallel, slightly emarginate . SCHISTOGENIA Kr., p. 423.
Sculpture normal; tongue split into two narrow diverging lobes [p. 432.
THAMIARÆA Thoms.,

Genus **CORDALIA** Jacobs.

Cordalia Jacobs, Ent. Zeitschr. (Frankfurt), xxxviii, 1924, p. 82 (nom. nov.); Scheerp., Kol. Rundsch. xv, 1929, p. 9; id., Tierwelt Mitteleur. v, 2, 1930, p. 73.

Cardiola Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 452 (præoc.); Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, pp. 224, 231; Reitter, Faun. Germ. ii, 1909, p. 75; Fenyès, Journ. N. York Ent. Soc. xx, 1912, p. 21; id., Gen. Ins. 173 B, 1920, p. 147; Johansen, Danmarks Rovbiller, 1914, p. 241; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 731; Everts, Col. Neerl. iii, 1922, p. 104; Portevin, Encycl. Ent. A, xii, 1929, i, p. 294.

Strandiodes Bernh., Folia Zool. Hydrobiol. (Riga) i, 1930, p. 191.

Rather parallel and subconvex in build. Head exserted, the neck narrow, the base truncate, the temples not margined below, gular sutures parallel, distant. Labrum transverse, truncate in front, the anterior angles rounded. Mandibles rather stout, pointed, the right with a small tooth at the middle of the inner border. Maxillary palpi 4-jointed, the 1st joint small, 2nd elongate, thickened towards the apex, the 3rd longer and stouter at the apex than the 2nd, 4th subulate, nearly half the length of the 3rd. Outer lobe of maxilla obliquely truncate at apex and ciliate; inner lobe pointed and incurved at apex, membranous internally, and with seven or eight moderately long curved spines towards the apex, ciliate towards the base. Mentum transverse, trapezoidal, broadly and slightly emarginate in front. Tongue short, moderately broad, bifid to about the middle, the lobes narrow and pointed. Paraglossæ distinct, not extending beyond the tongue, ciliate internally. Labial palpi 3-jointed, the 1st joint stout, rather short, 2nd much shorter and narrower than the 1st, 3rd about twice as long as the 2nd, narrow at the base, enlarged towards the apex, and truncate. Thorax convex, cordiform, the sides and base not bordered, the pronotal epipleura strongly reflexed, not visible from the side. Prosternum with longer anterior and shorter posterior deflexed part, this carinate along the middle. The usual membrane

behind the anterior coxal cavities completely chitinized, forming two contiguous plates. Mesosternum simple, its process short, narrowly truncate at the apex, and extending about half the length of the coxæ, nearly meeting the broader truncate apex of the metasternum, the coxæ moderately separated. Scutellum with small central tubercle or feeble keel. Elytra scarcely emarginate postero-externally, at the base between the shoulders and scutellum distinctly impressed. Legs moderate, tibiæ ciliate. Tarsi 4, 5, 5; the anterior with the first three joints short, equal, the 4th longer than the preceding three together; middle with the 1st joint nearly as long as the 2nd and 3rd together, these of equal length, 4th a little shorter, 5th as long as the 3rd and 4th together; posterior with the 1st joint as long as the 2nd, 3rd, and 4th together, these subequal, 5th as long as the 3rd and 4th together. Claws lightly curved. Abdomen with the first three visible dorsal segments transversely impressed at their bases, the 1st and 2nd ventral segments at their bases slightly constricted.

Key to the Species.

1. Larger (3 mm.) and more robust; antennæ much longer, the 5th to 7th joints distinctly longer than broad [p. 238.
longicornis, sp. n.,
- Smaller (2-2.5 mm.); antennæ shorter, the 5th to 7th joints distinctly transverse. 2.
2. Species covered with a long, thick, semi-erect pubescence which is very evident along the side-margins *vestita* Boh., p. 237.
- Species covered with a short, fine, depressed pubescence and not standing out from the sides *obscura* Gr., p. 236.

1708. *Cordalla obscura*.

Aleochara obscura Gr., Col. Micr. Brunsv. 1802, p. 74; Er., Käf. Mark Brandenb. i, 1837-39, p. 295; id., Gen. Spec. Staph. 1839-40, p. 54; Redtb., Faun. Aust. ed. i, 1849, p. 651, ed. ii, 1858, p. 119, ed. iii, 1874, p. 130; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 35; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, tab. 1, fig. 4; Thoms., Skand. Col. ii, 1861, p. 298; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 455; Fowler, Col. Brit. Isl. ii, 1888, p. 148; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 257 (*Falagria*); Everts, Col. Neerl. i, 1898, p. 231; Reitt. Faun. Germ. ii, 1909, p. 75, tab. 44, fig. 6; Johansen, Danmarks Rovbiller, 1914, p. 241; Fenyès, Gen. Ins. 173 B, 1920, tab. 3, fig. 1; Everts, Col. Neerl. iii, 1922, p. 103; Portevin, Encycl. Ent. A, xii, 1929, i, p. 294, fig. 288.

Falagria crassiuscula Hochh., Bull. Mosc. xlv, 1871, p. 87.

Falagria flavipes Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 105.

Falagria floralis Steph., l. c. p. 105.

Falagria immunitis Steph., l. c. p. 129.

Falagria nitens Steph., l. c. p. 105.

BIOLOGY.—Xambeu, Ann. Soc. Linn. Lyon, xlix, 1902, pp. 1-53; id., Échange, xxvi, 1910, p. 21.

Rather shining; head pitchy-black or pitchy-brown; thorax darker, elytra lighter reddish-brown; abdomen pitchy-brown, the posterior margins of the segments narrowly reddish. Antennæ reddish-brown. Legs reddish-yellow. Length 2.5 mm.

Head as broad as the thorax, subquadrate, extremely finely, moderately closely punctured, the vertex lightly impressed in the middle in the ♂. Antennæ rather stout, the 3rd joint as long as the 2nd, 4th as long as broad, 5th to 10th transverse, gradually increasing in width, 11th as long as the 9th and 10th together. Thorax cordiform, scarcely broader than long, convex, along the middle broadly impressed in the ♂, narrowly in ♀, the puncturation as on the head. Scutellum with a few small granules. Elytra convex, broader and about a third longer than the thorax, between the scutellum and the humeral angle with a little impression, extremely finely moderately closely punctured. Abdomen very finely, closely punctured throughout, in the impressions more coarsely. The whole insect covered with a fine yellow depressed pubescence.

India (without further indication). Widely distributed in the Palæarctic region. Also in North America.

1709. *Cordalia vestita*.

Falagria vestita Boh., Eugen. Resa, Ins. Col. 1858, p. 25; Cam., Trans. Ent. Soc. Lond. 1920, p. 392.

Shining reddish-brown or brownish-red, the 4th and 5th visible abdominal segments blackish. Antennæ reddish-brown, the 1st, 2nd, and 11th joints lighter. Legs reddish-yellow. Length 2-2.5 mm.

Head strongly transverse, rounded, convex, a little narrower than the thorax, the eyes moderate, not prominent, very finely, moderately closely punctured. Antennæ rather stout, the 2nd and 3rd joints of equal length, 4th slightly longer than broad, the 5th to 10th transverse, gradually increasing in width, the penultimate about a half broader than long, the 11th as long as the preceding two together. Thorax cordiform, a little transverse, the sides rounded, dilated in front, strongly retracted behind, the posterior angles rounded, along the middle with a narrow deep sulcus, extremely finely, moderately closely punctured. Scutellum shining and with five or six minute punctures. Elytra convex, as long as but distinctly broader than the thorax, at the base between the shoulder and scutellum with an impression, the sides rounded, as finely but rather more closely punctured than the thorax. Abdomen coarsely and closely punctured in the basal impressions, elsewhere very finely and rather closely punctured. The whole insect closely covered with a long, semi-erect, greyish pubescence which is especially noticeable along the sides.

United Provinces : Dehra Dun. Assam : Shugnu. Burma : Tenasserim. Also in China, Malay Peninsula, Sumatra, etc. The insect is found in vegetable débris, rotten wood, etc.

1710. *Cordalia longicornis*, sp. n.

Differs from *vestita* in the larger size (3 mm.) and more robust build and longer antennæ, in these the 3rd joint is longer than the 2nd, 4th to 7th all distinctly longer than broad, gradually decreasing in length, 8th about as long as broad, 9th and 10th slightly transverse, the 11th as long as the preceding two together ; the head also is black and less punctured, the thorax is much less finely punctured, the punctures closer and asperate in the vicinity of the sulcus, the abdomen, except in the impressions, is less closely punctured, in other respects similar to *vestita*.

In the unique example the 8th dorsal segment has a flat keel (broader at the base) along the middle which is produced as a sharp spine beyond the posterior margin.

Ghum district, v., vi. 1931 (*Cameron*).

Genus **RHOPALINDA** Cam.

Rhopalinda Cam., E. M. M. lxiii, 1927, p. 222.

In facies somewhat similar to *Dorylophila*, subgen. *Dorylophilina*, but with the antennæ much more strongly clavate and the thorax much more transverse. Head transverse, free, the temples not bordered, the gular sutures parallel, widely separated, the neck about a quarter of the width of the base. Antennæ 11-jointed, strongly clavate from the 4th joint. Labrum bilobed to the base, membranous between the lobes. Mandibles short, stout, pointed, edentate, with ciliate membrane. Maxillary palpi with small 1st joint, 2nd a little thickened towards the apex, the 3rd elongate-oval, the base narrower, 4th subulate, about a third as long as the preceding. Lobes of the maxilla narrow, the outer densely ciliate at apex, the inner densely ciliate internally. Mentum trapezoidal, narrowed towards the front, the anterior border broadly emarginate. Labial palpi 3-jointed, the 1st joint stout, twice as long as broad, the 2nd narrower, half as long as the 1st, 3rd much narrower and more than twice as long as the 2nd. Tongue short and broad, the front border rounded, and with a small triangular emargination in the middle. Paraglossæ distinct. Thorax about twice as broad as long, in the middle with two strongly elevated longitudinal keels enclosing a broad, median, oval space, externally broadly explanate, with the lateral margins slightly raised ; pronotal epipleura broad, distinctly visible from the side. Prosternum short, strongly keeled in the middle. Mesosternal process

narrow, extending about two-thirds the length of the coxæ, the apex rounded, the coxæ narrowly separated ; metasternal process short, triangular, meeting the mesosternal process. Scutellum small. Elytra with flattened disc, the side-margins strongly keeled, strongly sinuate within the postero-external angles. Legs short, femora and tibiæ stout, without spines or setæ. Tarsi slender, 4, 5, 5 ; the anterior with the first three

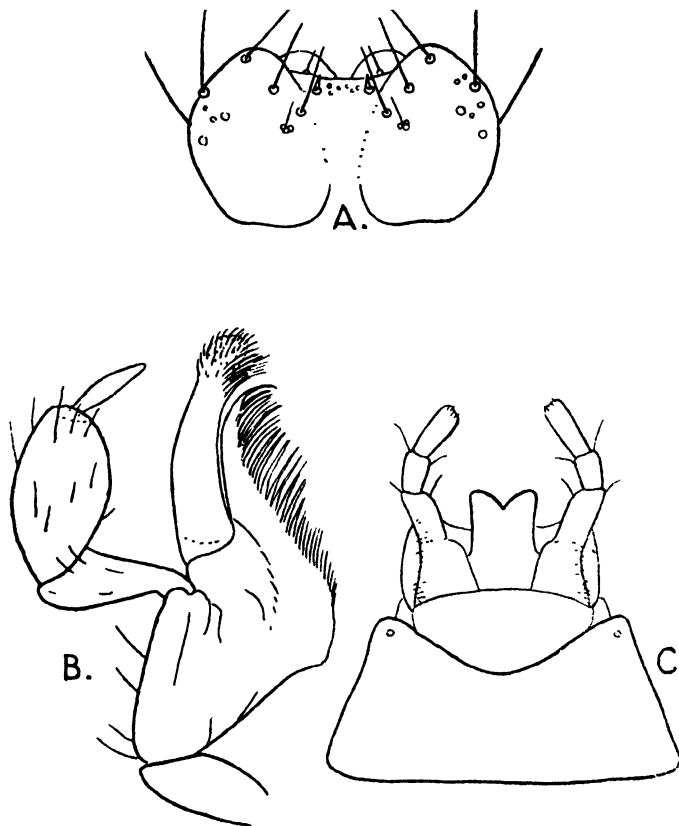


Fig. 85—*Rhopalinda termitophila*. A, labrum ; B, maxilla ; C, labium.

joints short and equal, the 4th as long as the preceding three together ; middle with the 1st joint about twice as long as the 2nd, 2nd to 4th short, subequal, 5th as long as the preceding three together ; posterior with 1st joint distinctly longer than the 2nd, 2nd to 4th gradually decreasing in length, 5th about as long as the 1st. Claws lightly curved. Abdomen narrowed from base to apex, the segments not transversely impressed at their base, setiferous.

1711. *Rhopalinda termitophila*. (Plate I, fig. 12.)*Rhopalinda termitophila* Cam., E. M. M. lxiii, 1927, p. 223.

Shining, with a fine, short, yellowish pubescence; head black, thorax brown, elytra yellow, slightly infusate at the scutellum, abdomen pitchy, the 5th and 6th segments darker, the apex lighter. Antennæ with the first five joints and apex of the last reddish-yellow, the intermediate pitchy. Legs yellow. Length 2.5 mm.

Head transverse, much narrower than the thorax, widest behind the eyes, these rather small, postocular region much longer, rounded with the posterior angles; front rounded and a little produced, finely, somewhat asperately and rather closely punctured. Antennæ short, the 2nd joint about half as long as the 1st, 3rd slightly transverse, 4th to 10th rapidly increasing in width, the penultimate joints very short, about five times broader than long, the 11th stout, conical, about as long as the preceding three together. Thorax rather more than twice as broad as long, the sides evenly rounded with the base, the anterior angles rounded, but less broadly than the posterior ones, the anterior border broadly and feebly emarginate, the posterior a little produced behind in the middle, the disc with two strongly elevated longitudinal keels, enclosing a broad oval space extending from the anterior to the posterior border, externally broadly explanate, the side-margins strongly raised and thickened, the whole surface as closely but distinctly more finely punctured than the head. Scutellum triangular, finely punctured. Elytra a little broader and a half longer than the thorax, strongly transverse, the disc flattened, the side-margins strongly raised, with closer and less fine puncturation than on the thorax. Abdomen gradually narrowed from base to apex, closely and very finely punctured and pubescent, a little more sparingly behind, each segment with four long black setæ, the sides and apex with similar ones. (*Genotype*.)

Dehra Dun. Frequents the exposed combs of *Termes*.

Genus **DEMERINDA** Cam.*Demerinda* Cam., E. M. M. lxiii, 1927, p. 223.

Near *Demera* Fauv., but broader, more depressed, with smaller eyes and longer 1st joint of the posterior tarsi; the mouth-parts are similar to those of *Rhopalinda*, except the tongue, which is divided almost to the base into two lobes as in *Demera*. From *Rhopalinda* it is at once distinguished by the normal antennæ and the non-costate thorax and elytra. The mesosternal structure is similar to that of *Rhopalinda*; the pronotal epipleura are broad but strongly reflexed, and not visible from the side. The femora and tibiæ are not thickened, the middle tarsi have the 1st and 2nd joints sub-

equal and of moderate length, the 3rd and 4th shorter, subequal; posterior with the 1st joint elongate, longer than 2nd, 3rd and 4th shorter, subequal, 5th nearly as long as the 1st. Abdomen more parallel, without setæ except at apex, and the elytra not emarginate internal to the postero-external angles. In other respects similar to *Rhopalinda*. In the figure the 2nd joint of the labial palp is too long.

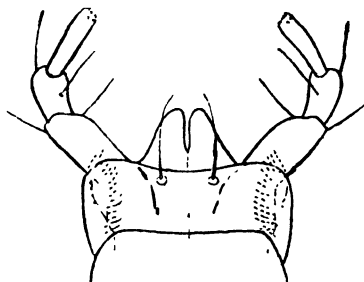


Fig. 86.—*Demerinda termitophila*, labium.

1712. ***Demerinda termitophila*.** (Plate I, fig. 11.)

Demerinda termitophila Cam., E. M. M. lxiii, 1927, p. 224.

Shining, subdepressed, finely, shortly, yellow pubescent. Head black, thorax pitchy-black, elytra yellow, abdomen yellowish-brown, with the posterior margins of the segments lighter. Antennæ reddish-yellow, the 11th joint infusate. Legs yellow. Length 3 mm.

Head strongly transverse, narrower than the thorax, widest between the temples, these rounded with the posterior angles, eyes flat, almost as long as the temples, finely asperately, rather closely punctured. Antennæ moderate, the 2nd and 3rd joints subequal, 4th and 5th about as long as broad, 6th to 10th transverse, gradually increasing in width, the penultimate about a half broader than long, the 11th conical, a little longer than the preceding two together. Thorax transverse (5 : 3), widest at the rounded posterior angles, the sides gently rounded and a little retracted to the rounded anterior angles, the anterior border straight, the posterior a little rounded in the middle, in the middle of the disc with a fine, short, longitudinal impressed line, before the scutellum with a fovea, externally near the posterior angles broadly obliquely impressed, the puncturation very similar to that of the head. Elytra a third longer and a little broader than the thorax, similarly but less finely punctured. Abdomen parallel, narrowed before the apex, closely and finely punctured and pubescent, the apex with some black setæ. (*Genotype*.)

Dehra Dun. Frequents the exposed combs of *Termes*.

Genus **FALAGRIA** Mannerh.

- Falagria* Mannerh., Mém. Acad. Sci. St. Petersb. i, 1830, pp. 14–18 ; Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 103 ; Er., Käf. Mark Brand. i, 1837–39, p. 293 ; id., Gen. Spec. Staph. 1839–40, p. 48 ; Redtb., Faun. Aust. ed. i, 1849, p. 650, ed. ii, 1858, p. 118, ed. iii, 1874, p. 129 ; Lacord., Gen. Col. ii, 1854, p. 28 ; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856–58, p. 32 ; Jacq. du Val, Gen. Col. d'Eur. ii, 1857–59, p. 4 ; Thoms., Skand. Col. ii, 1860, p. 297 ; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 433 ; Fowler, Col. Brit. Isl. ii, 1888, p. 147 ; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 253 ; Everts, Col. Neerl. i, 1898, p. 231 ; Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, pp. 224, 245 ; Reitt., Faun. Germ. ii, 1909, p. 74 ; Blatchley, Col. Indiana, i, 1910, p. 346 ; Fenyès, Jour. N. York Ent. Soc. xx, 1912, p. 20 ; id., Gen. Ins. 173 B, 1920, p. 152 ; Johansen, Danmarks Rovbiller, 1914, p. 237 ; Cam., Trans. Ent. Soc. Lond. 1920, pp. 361, 392 ; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 731 ; Everts, Col. Neerl. iii, 1922, p. 103 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 293 ; Scheerp., Kol. Rundsch. xv, 1929, p. 9 ; id., Tierwelt Mitteleur. v, 2, 1930, p. 73.
- Subgen. *Anaulacaspis* Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 256 ; Reitt., Faun. Germ. ii, 1909, p. 74 ; Johansen, Danmarks Rovbiller, 1914, p. 240 ; Fenyès, Gen. Ins. 173 B, 1920, p. 152 ; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 731 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 294.
- Falagrioma* Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, pp. 226, 230.
- Leptagria* Casey, l. c. pp. 227, 249.
- Subgen. *Falagria*, s. str., Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 256 ; Casey, l. c. pp. 227, 245 ; Reitt., Faun. Germ. ii, 1909, p. 74 ; Johansen, Danmarks Rovbiller, 1914, p. 238 ; Fenyès, Gen. Ins. 173 B, 1920, p. 153 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 293.
- Subgen. *Melagria* Cas., Trans. Acad. Sci. St. Louis, xvi, 1906, p. 230.
- Falagricia* Reitt., Faun. Germ. ii, 1909, p. 74 ; Portevin, Encycl. Ent. A, xii, 1929, p. 294.
- Subgen. *Stenagria* Shp., B. C.-A. i, 2, 1882–87 (1883), p. 237 ; Fauv., Rev. d'Ent. xvi, 1897, p. 343, and xxvi, 1907, p. 61 ; Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, p. 239 ; Fenyès, Gen. Ins. 173 B, 1920, p. 159 ; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 731.
- Lorinota* Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, pp. 226, 238 ; Fenyès, Gen. Ins. 173 B, 1920, p. 158 ; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 731.
- Myrmecocephalus* MacLeay, Trans. Ent. Soc. N. S. Wales, ii, 1871, p. 134.
- Silicioides* Broun, Man. N. Zeal. Col. i, 1880, p. 95.
- BIOLOGY.—Heeger, Sitzb. Ak. Wiss. Wien, xxiv, 1857, pp. 315–317, tab. 1 ; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 254 ; Xambeau, Echange, xxvi, 1910, p. 20 ; Rupertsb., Biol. Käf. Eur. 1880, p. 115.

In most structural characters very similar to *Cordalia*, but the thorax is usually longer, less cordiform, and the sides and base distinctly bordered with the pronotal epipleura visible from the side ; the elytra are devoid of an intra-humeral impression, the scutellum is carinate or bicarinate, except in the subgenera *Anaulacaspis* and *Melagria*, where it is granular.

Key to the Subgenera.

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Scutellum carinate or sulcate | 2. |
| Scutellum otherwise | 3. |
| 2. Scutellum deeply sulcate along the middle,
the sides of the sulcus raised as
strong keels; posterior angles of the
thorax rounded, not prominent | FALAGRIA, s. str., p. 243. |
| Scutellum with a fine median keel;
posterior angles of thorax acute, everted
and prominent | STENAGRIA Shp., p. 247. |
| 3. Scutellum covered with coarse granules;
thorax deeply sulcate along the middle.
Scutellum with a few small punctures;
thorax with only a fine median im-
pressed line | ANAULACASPIS Ganglb.,
[p. 256.]
MELAGRIA Cas., p. 259. |

Key to the Species of Falagria, s. str.

- | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 1. Antennæ with the penultimate joints
distinctly transverse | 2. |
| Antennæ with the penultimate joints as
long or longer than broad | 4. |
| 2. Darker, black or pitchy species, the thorax
strongly dilated in front and sinuately
retracted behind | 3. |
| Bright yellowish-red species; thorax some-
what cordate | <i>birmana</i> , sp. n., p. 245 |
| 3. Larger (2·2–2·5 mm.): elytra uniformly
punctured | <i>sulcata</i> Payk., p. 243. |
| Smaller (1·5 mm.); elytra asperately punc-
tured around the scutellum | <i>vilis</i> Kr., p. 245. |
| 4. Larger (2·5 mm.); penultimate joints of
the antennæ as long as broad | <i>vicina</i> , sp. n., p. 244. |
| Smaller (1·5 mm.); all the joints of
antennæ longer than broad | <i>longicornis</i> Kr., p. 244. |

1713. *Falagria* (s. str.) *sulcata*.

Staphylinus sulcatus Payk., Mon. Staph. 1789, p. 32; Er., Gen. Spec. Staph. 1839–40, p. 49; Redtb., Faun. Austr. ed. i, 1849, p. 651, ed. ii, 1858, p. 119, and ed. iii, 1874, p. 129; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856–58, p. 34; Thoms., Skand. Col. ii, 1860, p. 297; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 436; Fowler, Col. Brit. Isl. ii, 1888, p. 147, tab. 49, fig. 1; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 255; Everts, Col. Neerl. i, 1898, p. 231; Reitter, Faun. Germ. ii, 1909, p. 74, tab. 44, fig. 3; Johansen, Danmarks Rovbiller, 1914, p. 238, fig. 89; Fenyès, Gen. Ins. 173 B, 1920, tab. 3, fig. 2; Hellén, Not. Ent. ii, 1922, p. 86; Portevin, Encycl. Ent. A, xii, 1929, i, p. 294 (all *Falagria*).

Falagria cæsa Er., Käf. Mark Brandenb. i, 1837–39, p. 295.

Falagria sicula Jekel, Col. Jekel, i, 1873, p. 33.

BIOLOGY.—Heeger, Sitz.-Ber. Akad. Wiss. Wien, xxiv, 1857, pp. 315–77, tab. 1; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 254; Xamheu, Échange, xxvi, 1910, p. 20.

Shining, black, the elytra and sometimes the thorax brown; abdomen pitchy-black, the posterior margin of the segments narrowly and obscurely reddish. Antennæ reddish-brown to blackish. Legs yellowish-red. Length 2·2–2·5 mm.

Head as broad as the thorax, transversely suborbicular, extremely finely, rather sparingly punctured. Antennæ with the 2nd and 3rd joints subequal, 4th about as long as broad, 5th to 10th moderately transverse, gradually increasing in width, 11th shorter than the 9th and 10th together. Thorax a little transverse, strongly rounded and dilated in front, strongly contracted behind, the posterior angles obtusely rounded, deeply and narrowly sulcate along the middle, extremely finely, moderately closely punctured. Scutellum bicarinate. Elytra broader and about a third longer than the thorax, convex, extremely finely, moderately closely punctured. Abdomen very slightly widened behind, coarsely punctured in the impressions, elsewhere very finely, more closely on the last three segments.

Mussooree district : Keyarkuli. Chakrata district : Sainj Khud. Simla Hills : Kotgarh. Also in Europe, N. Africa, and Japan.

1714. *Falagria* (s. str.) *vicina*, sp. n.

Very near *sulcata* Payk., but differs in the brighter colour, the thorax being reddish-brown and the elytra brownish-yellow, the reddish-brown, longer, thinner antennæ, the 4th to 7th joints being longer than broad, the 8th to 10th as long as broad; the thorax is less dilated in front, the sides behind less retracted and not sinuate; the puncturation scarcely differs in the two species. From *longicornis* Kr. it is distinguished by the larger size (2.5 mm.) and less elongate antennæ, the 7th to 10th joints not being longer than broad.

Dehra Dun. Siwaliks. Andaman Islands (Port Blair). Also Pulo Condore and Hong-kong.

1715. *Falagria* (s. str.) *longicornis*.

Falagria longicornis Kr., Arch. Naturg. xxv, 1859, p. 6.

Shining, pitchy-black; thorax and elytra pitchy-brown, thorax subcordate, deeply sulcate, scutellum deeply sulcate. Antenna stout, reddish-yellow. Length $\frac{3}{4}$ lin.

Like *sulcata* Payk., but much smaller, less convex, pitchy-black, shining, very finely pubescent. Antennæ rather long and stout, *all the joints distinctly longer than broad*. Head scarcely narrower than the thorax, shining, glabrous, scarcely punctured, the front between the antennæ obsoletely bi-impressed. Thorax slightly transverse, rounded and dilated before the middle, lightly contracted towards the base, scarcely punctured, deeply sulcate. Scutellum finely sulcate. Elytra a little longer than the thorax, sparingly and extremely finely punctured. Abdomen closely and distinctly punctured. Legs yellow.

Ceylon (*Nietner*). Unique (ex *Kraatz*).

1716. *Falagria* (s. str.) *vilis*.

Falagria vilis Kr.*, Arch. Naturg. xxv, 1859, p. 5.

Shining; head black; thorax reddish-brown; elytra brownish-yellow; abdomen pitchy, the base and apex lighter. Antennæ reddish-brown, the first two joints yellow. Legs yellow. Length 1.5 mm.

In build very similar to *longicornis*, but with shorter, stouter antennæ and different scutellum. Head transverse, slightly wider than the thorax, transversely impressed behind the anterior border, scarcely perceptibly and very sparingly punctured. Antennæ with the 4th to 10th joints transverse, gradually increasing in breadth, the penultimate moderately transverse. Thorax a little broader than long, the sides almost straightly retracted behind, deeply longitudinally sulcate and foveate before the base, scarcely perceptibly and very sparingly punctured. Scutellum sulcate and bicarinate along the middle, granular at the sides. Elytra a little longer and distinctly broader than the thorax, slightly transverse, around the scutellum closely, finely and asperately punctured, elsewhere scarcely perceptibly punctured. Abdomen deeply and closely punctured in the basal impressions, finely and sparingly elsewhere, but rather more closely behind.

"Ind. or." (without further indication).

1717. *Falagria* (s. str.) *birmana*, sp. n.

Very shining, yellowish-red, the elytra obscurely infuscate towards the sides and behind; abdomen slightly infuscate on the 4th and 5th (visible) segments. Antennæ reddish-brown. Legs yellow. Length 2 mm.

In the form of the thorax approaches the subgenus *Melagria*, but the scutellum is bicarinate, the shape of the head more like *sulcata*. Head transverse, as broad as the thorax, the posterior angles briefly rounded, extremely finely, moderately closely punctured. Antennæ short and stout, the 4th to 10th joints transverse, gradually increasing in width. Thorax slightly transverse, somewhat cordate, wider in front, the sides evenly rounded and gradually retracted to the rounded posterior angles, along the middle narrowly but not deeply sulcate, the sulcus wider behind, the puncturation about as close but finer than that of the head. Scutellum bicarinate. Elytra broader and a little longer than the thorax and very similarly punctured. Abdomen a little narrowed at the base and apex, very finely, moderately closely punctured throughout. The whole insect covered with yellow depressed pubescence which is longer and coarser on the abdomen.

Burma: Tenasserim.

Key to the Species of the Subgenus Stenagria.

1. Thorax closely covered with granules (see also 14, *asperata*) 2.
 Thorax otherwise 3.
2. Larger (4 mm.); head pear-shaped, coriaceous, greasy lustrous; penultimate joints of antennæ distinctly longer than broad; thorax closely covered with very small granules *longiceps*, sp. n., p. 255.
 Smaller (3 mm.); head suborbicular, not coriaceous, shining; penultimate joints of antennæ not longer than broad; thorax closely covered with moderate granules *granulata*, sp. n., p. 252.
3. Thorax strongly coriaceous, dull or greasy lustrous 4.
 Thorax not coriaceous, shining, punctured, sometimes asperately 11.
4. Antennæ very long and slender, all the joints much longer than broad 5.
 Antennæ less elongate, the 10th joint about as long as broad 10.
5. Thorax broadly impressed along the middle and sharply sulcate 6.
 Thorax not or scarcely impressed along the middle, only narrowly and sharply sulcate 7.
6. Larger (5 mm.); head longer, somewhat pear-shaped *genalis*, sp. n., p. 254.
 Smaller (3.75 mm.); head round *semilucida*, sp. n., p. 253.
7. Elytra shining, very finely punctured .. 8.
 Elytra dull, coriaceous, impunctate ... *andrewesi*, sp. n., p. 254.
8. Head and thorax quite dull. 9.
 Head and thorax greasy lustrous *opacella*, sp. n., p. 253.
9. Elytra pitchy-black, without ground-sculpture, very finely and closely punctured *semioopaca*, sp. n., p. 254.
 Elytra brownish-yellow, distinctly coriaceous, the puncturation extremely fine and confused with the ground-sculpture *alutipennis*, sp. n., p. 255.
10. Head, thorax, and first two visible abdominal segments reddish-brown .. *opacicollis* Kr., p. 252.
 Head, thorax, and abdomen black *pallipennis*, sp. n., p. 253.
11. Antennæ with the penultimate joints distinctly longer than broad 12.
 Antennæ with the penultimate joints not longer than broad 18.
12. Head transversely subquadrate, with rounded posterior angles 13.
 Head orbicular or oval 15.
13. Elytra extremely finely and rather sparingly punctured; antennæ entirely reddish-yellow *flavocincta* Kr., p. 248.
 Elytra finely but closely punctured ... 14.
14. Larger (3.75 mm.); elytra asperately punctured *asperata* Cam., p. 251.
 Smaller (2.5-3 mm.); elytra simply punctured *differens* Cam., p. 248.

15. Head orbicular, as long as broad 16.
 Head oval, a little longer than broad 17.
16. Elytra closely punctured; antennæ longer and more slender *orientalis* Cam., p. 250.
 Elytra sparingly punctured; antennæ shorter and stouter *championi*, sp. n., p. 248.
17. Head and thorax without ground-sculpture, closely and distinctly punctured *dimidiata* Motsch., p. 250.
 Head and thorax with fine ground-sculpture, sparingly and indistinctly punctured *himalayica*, sp. n., p. 251.
madurensis Bernh., p. 249.
18. Darker species; head suborbicular 19.
 Head transversely subquadrate
19. Thorax less finely, closely and distinctly asperately punctured *nilgiriensis* Fauv., p. 249.
 Thorax very finely, simply punctured 20.
20. Elytra and abdomen finely and closely punctured *concinna* Er., p. 247.
 Elytra and abdomen finely but much less closely punctured *soror*, sp. n., p. 248.

1718. **Falagria (Stenagria) concinna.**

Falagria concinna Er., Gen. Spec. Staph. 1839-40, p. 51; Fauv., Rev. d'Ent. xxi, 1902, p. 151; Deville, Abeille, xxx, 1905, p. 240; Portevin, Encycl. Ent. A, xii, 1929, i, p. 293.

Falagria currax Shp.*, Trans. Ent. Soc. Lond. 1880, p. 37; Faun. Hawaiiens. 1908, p. 578.

Falagria fovea Shp.*, Trans. Ent. Soc. Lond. 1874, p. 3.

Falagria longipes Woll.*, Trans. Ent. Soc. Lond. 1871, p. 284; Mars., Abeille, viii, 1871, p. 121; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 256.

Falagria para Shp.*, Trans. Ent. Soc. Lond. 1876, p. 41; id., B. C.-A. i, 2, 1882-87 (1883), p. 240, tab. 6, fig. 10 (*Stenagria*).

Shining; head and thorax bright ferruginous-red, often more or less infuscate; elytra smoky-brown, with the base and apex more or less yellowish; abdomen with the first two visible segments yellow, the rest black. Antennæ yellowish-red, the intermediate joints blackish. Legs reddish-yellow, the apex of the femora often infuscate. Length 2.5-3 mm.

Head transverse, subquadrate, as broad as the thorax, very finely, moderately closely punctured. Antennæ rather long, gradually thickened towards apex, the 3rd joint as long as the 2nd, 4th to 8th all longer than broad, gradually decreasing in length, the 9th and 10th about as long as broad, the 11th as long as the preceding two together. Thorax a little longer than broad, the sides strongly rounded and dilated in front, strongly retracted behind, the posterior angles obtuse and prominent, along the middle deeply and narrowly sulcate, very finely, but rather more closely punctured than the head. Elytra convex, as long as but broader than the thorax, very finely, more closely punctured than the thorax. Abdomen very finely, sparingly punctured on the first two segments,

more closely on the following. The whole insect finely pubescent.

Nilgiri Hills. Dehra Dun. Mussooree and Chakrata districts. Also in southern Europe and the warmer parts of the world.

1719. *Falagria (Stenagria) soror*, sp. n.

Very closely allied to *concinna*, of the same size and build, but the eyes are smaller, the antennæ very similarly constructed, the head and thorax (usually) darker in colour, the former pitchy-black; the elytra and abdomen are obviously more sparingly punctured. In other respects similar to *concinna*.

Simla Hills: Gahan, Matiana, alt. 6000–8000 feet. Chakrata district: Mundali. Kashmir: Gulmarg, alt. 8000–10,000 feet.

1720. *Falagria (Stenagria) championi*, sp. n.

Shining, dark reddish-brown to black, the 1st visible segment of the abdomen, and sometimes the posterior margin of the 2nd, yellow. Antennæ blackish, the first two or three joints and the last yellowish-red. Legs reddish-yellow, the apical half of the femora infusate. Length 4 mm.

Differs from *concinna* in the larger size, darker colour, orbicular head, longer antennæ, the penultimate joints a little longer than broad, and the much less closely punctured elytra.

Almora: Zodh. Ghum.

1721. *Falagria (Stenagria) differens*.

Falagria (Stenagria) differens Cam., Tijdschr. Ent. lxxvi, 1933, p. 14.

Extremely like *concinna*, similarly coloured but less robust and with the antennæ more slender, the intermediate joints longer, the penultimate slightly but distinctly longer than broad, the head narrower, more orbicular, the thorax less dilated in front, the puncturation of the elytra not quite so close, in other respects like *concinna*.

Siwaliks, Nakraunda. Also in Sumatra and the Malay Peninsula.

1722. *Falagria (Stenagria) flavocincta*.

Falagria flavocincta Kr.*, Arch. Naturg. xxv, 1859, p. 4.

Falagria ceylonica Cam., E. M. M. lvi, 1920, p. 94.

Shining, reddish or light reddish-brown, the elytra brownish-yellow, lighter at the base and apical margin; abdomen black, the first two segments yellow. Antennæ and legs reddish-yellow. Length 3 mm.

In build and colour very similar to *concinna*, but larger and more robust, with longer, not at all infusate antennæ. Head as broad as the thorax, transversely subquadrate, with broadly rounded posterior angles, very finely and not closely punctured. Antennæ long, all the joints longer than broad, gradually decreasing in length, the 10th only slightly longer than broad. Thorax a little longer than broad, dilated and rounded in front, sinuately retracted behind, the posterior angles acute and prominent, along the middle deeply sulcate, extremely finely, rather sparingly punctured. Scutellum finely keeled along the middle. Elytra slightly longer and distinctly broader than the thorax, extremely finely and less closely punctured than in *concinna*. Abdomen very finely, sparingly punctured.

Ceylon : Bogawantalawa, alt. 4900–5200 feet.

1723. *Falagria (Stenagria) nilgiriensis*.

Falagria nilgiriensis Fauv.*, Rev. d'Ent. xxiii, 1904, p. 62.

Shining; head and thorax yellowish-red, elytra smoky, the base and apical margin yellowish: abdomen with the first two segments yellow, the following black. Antennæ yellowish-red. Legs yellow. Length 2.3–2.5 mm.

In build and colour scarcely differing from *concinna* Er., but at once distinguished by the less fine and distinctly asperate puncturation throughout: the antennæ also are shorter and stouter, the 5th and 6th joints shorter, the penultimate more transverse. The puncturation on the head and thorax is also much closer than in *concinna*, but less close on the elytra. The posterior angles of the thorax are rectangular and a little prominent, the scutellum is furnished with a fine median keel.

Nilgiri Hills.

1724. *Falagria (Stenagria) madurensis*.

Falagria madurensis Bernh., Ent. Blatt. xi, 1915, p. 256.

Shining, black, the first two or three (visible) segments of the abdomen reddish. Elytra brownish-yellow. Antennæ blackish, the first two joints yellowish-brown. Legs brownish-yellow. Length 2.75–3.5 mm.

Head as broad as the thorax, suborbicular, sometimes flattened in front, very finely, moderately closely punctured. Antennæ long, a little thicker towards apex, the 4th to 8th joints longer than broad, gradually decreasing in length from the 4th, the 9th and 10th only as long as broad. Thorax a little longer than broad, strongly dilated and rounded in front, strongly retracted behind, the posterior angles very sharp and prominent, impressed along the middle and narrowly and deeply sulcate, extremely finely, moderately closely

punctured. Scutellum finely keeled along the middle and with a few fine granules. Elytra as long as but broader than the thorax, behind the scutellum with a round impression, extremely finely, moderately closely punctured. Abdomen with some coarse punctures in the impressions, elsewhere very finely and rather closely punctured on the 3rd to 5th segments, more sparingly on the first two.

S. India : Madura, Chambaganoor (*Donckier*).

1725. *Falagria (Stenagria) dimidiata*.

Falagria dimidiata Motsch., Bull. Mosc. xxxi, 1858, iii, p. 280.

Colour of *concinna*, but at once distinguished by the shape of the head, which is oval, a little longer than broad, somewhat pear-shaped, and the longer antennæ formed as in *flavocincta*, but with the intermediate joints black. Head with the post-ocular region gently rounded and retracted to the neck, very finely, moderately closely punctured and without ground-sculpture. Antennæ long, a little thickened towards apex, all the joints longer than broad, gradually decreasing in length, the 10th only slightly longer than broad. Thorax a little longer than broad, formed as in *concinna*, but less finely punctured; ground-sculpture absent. Scutellum with fine median keel. Elytra as long as but broader than the thorax, behind the scutellum with a round impression, extremely finely and much more sparingly punctured than in *concinna*. Abdomen in the more darkly coloured examples often with only the first visible segment yellow, the puncturation as in *concinna*. Length 3.5 mm.

Ceylon. India : Nilgiri Hills.

1726. *Falagria (Stenagria) orientalis*.

Falagria (s. str.) *orientalis* Cam., Ann. Mus. Civ. Gen. III, 1925, p. 41.

Shining; head black; thorax pitchy-black or pitchy-brown, elytra brownish, the humeral angles broadly, the posterior margin more or less testaceous; abdomen black or pitchy, with the first (visible) segment, and more or less of the second posteriorly, testaceous. Antennæ blackish, the first two joints and the last reddish-testaceous. Femora pitchy, with bases testaceous, tibiæ and tarsi testaceous. Length 4.75 mm.

Near *dimidiata* Motsch., but darker coloured, the head orbicular, the antennæ longer, the elytra and abdomen much more closely punctured and pubescent. Head completely orbicular, extremely finely and not very closely punctured, finely and sparingly pubescent. Antennæ reaching beyond the posterior margin of the elytra, all the joints much longer

than broad, more or less cylindrical, the penultimate gradually decreasing in length, the 11th longer than the 10th. Thorax wider than the head, longer than broad (6 : 5), strongly narrowed behind, the posterior angles prominent and dentiform, dilated and rounded anteriorly, deeply sulcate medially through nearly the whole length, extremely finely and moderately closely punctured, very finely pubescent. Scutellum carinate along the middle. Elytra shorter and broader than the thorax, slightly transverse, extremely finely and moderately closely punctured, very finely pubescent. Abdomen very finely and rather closely punctured and pubescent, rather less closely on the first two segments however.

Assam : Cachar. Also in Sumatra and the Malay Peninsula.

1727. **Falagria (Stenagria) himalayica**, sp. n.

Slender, shining, the fore-parts black or dark reddish-brown with more or less of the base of the elytra yellowish ; abdomen black, the first (visible) segment and posterior margin of the 2nd yellow. Antennæ reddish-brown, the first two joints and apex of the last reddish-yellow. Legs reddish-yellow. Length 3-4 mm.

Narrower than *dimidiata*, with thinner antennæ, the 10th joint a good deal longer than broad, the head more attenuated behind, more lozenge-shaped, and with a very fine ground-sculpture ; the thorax is narrower, more finely and less closely punctured, and with a fine ground-sculpture less evident than on the head, the elytra as in *dimidiata*.

Smaller examples (3 mm.), in which the ground-sculpture on the head is less distinct and on the thorax is absent, appear to represent a race or variety of this species.

Mussooree, Chakrata, and Simla Hills, alt. 5000-7000 feet. W. Almora, Kumaun.

1728. **Falagria (Stenagria) asperata**.

Falagria asperata Cam., E. M. M. lvi, 1920, p. 95.

Build and colour of the body as in *flavocincta*, but larger and more robust, the antennæ similarly constructed, but with the 4th to 8th joints blackish ; head as broad as the thorax, transversely subquadrate, less finely punctured than in *flavocincta*, the thorax broader, more contracted behind and also less finely punctured ; the elytra are more closely, less finely and distinctly asperately punctured, the puncturation becoming gradually finer towards the posterior margin. Length 3.75 mm.

Ceylon : Bogawantalawa, alt. 4900-5200 feet.

1729. *Falagria* (*Stenagria*) *granulata*, sp. n.

Head, elytra, and abdomen shining, the thorax greasy lustrous; head dark reddish-brown or pitchy-black; thorax dark brown; elytra brownish-yellow; abdomen black, the first two visible segments yellow. Antennæ reddish, the 4th to 10th joints more or less infusate. Legs brownish-yellow, the bases of the femora lighter. Length 3 mm.

Head round, as broad as the thorax, impressed between the antennal tubercles, very finely, not very closely punctured. Antennæ with the 3rd joint as long as the 2nd, 4th to 8th a little longer than broad, gradually decreasing in length, 9th and 10th slightly transverse, 11th as long as the 9th and 10th together. Thorax slightly longer than broad, rounded and dilated in front, retracted behind, the posterior angles everted and prominent, along the middle with a narrow, sharply impressed line, closely covered with small granules. Elytra as long as but broader than the thorax, extremely finely, rather sparingly punctured. Abdomen very finely, moderately closely punctured on the posterior segments, more sparingly on the first two.

Nilgiri Hills.

1730. *Falagria* (*Stenagria*) *opacicollis*.

Falagria opacicollis Kr., Arch. Naturg. xxv. 1859, p. 4.

Head and thorax greasy lustrous, reddish-brown; elytra shining brownish-yellow to yellowish-brown; abdomen with the first two visible segments reddish, the rest black. Antennæ reddish, the 1st, 2nd, and 11th joints lighter. Legs reddish-yellow, the apical half of the femora and the tibiae more or less infusate. Length 3 mm.

In build very similar to *concinna*, but the sides of the thorax in front less rounded, more angulate. Head as broad as the thorax, subquadrate, the posterior angles broadly rounded, in front between the antennal tubercles somewhat flattened in the ♂, the surface densely coriaceous, impunctate. Antennæ long, a little thickened towards the apex, all the joints longer than broad, gradually decreasing in length from the 4th, the 10th only slightly longer than broad, the 11th a little shorter than the 9th and 10th together. Thorax a little longer than broad, dilated and obtusely rounded in front, strongly retracted behind, the posterior angles prominent and everted, along the middle broadly impressed and deeply narrowly sulcate, the sculpture as on the head. Scutellum with a fine median keel and a few fine granules. Elytra as long as but broader than the thorax, impressed behind the scutellum, very finely and rather closely punctured. Abdomen a little narrowed

at the base, impunctate in the impressions, elsewhere closely and finely punctured. The whole insect finely yellow pubescent.

Ceylon : Dikoya, alt. 3800–4200 feet. India : Nilgiri Hills.

1731. Falagria (Stenagria) pallipennis, sp. n.

Very near *opacicollis* Kr., of similar build, but with the head, thorax, and abdomen pitchy-black, the former more dull, the antennæ longer, black, the first two joints reddish-yellow, the elytra pale yellow, more finely and more closely punctured; the abdomen is densely and finely punctured and the femora are more deeply infuscate than in that species. Length 4 mm.

Dehra Dun. Mussooree: Arni Gad, Keyarkuli. Chakrata district: Sijla Gad, Korawa Khud, alt. 3000–8000 feet.

1732. Falagria (Stenagria) semilucida, sp. n.

Head and thorax pitchy-black, greasy lustrous with slight purple reflex; elytra shining, pitchy-black, scarcely lighter at the base; abdomen shining, black, the first two visible segments yellow. Antennæ black, the 1st and 11th joints reddish-yellow. Legs pitchy, the base of the femora and the tarsi yellow. Length 3.75 mm.

In build similar to *opacicollis*, but with rounder head, and further differs in the darker colour and longer, thinner, differently coloured antennæ. Head round, as broad as the thorax, flattened between the antennal tubercles, strongly coriaceous and impunctate. Antennæ very long and slender, all the joints much longer than broad, the 11th shorter than the preceding two together. Thorax as in *opacicollis*, the sculpture similar to that of the head. Elytra as long as but broader than the thorax, very finely, rather closely punctured. Abdomen closely and finely punctured, less closely on the first two segments.

Assam: Naga Hills, Kampison, alt. 6000 feet. Laimatak.

1733. Falagria (Stenagria) opacella, sp. n.

Head and thorax pitchy-black, greasy lustrous: the elytra shining, brown, the base and apical margin narrowly yellowish; abdomen black, shining, the 1st and 2nd segments more or less yellow. Antennæ reddish-brown, the first three joints and the 11th reddish-yellow. Legs brownish, the bases of the femora and the tarsi yellow. Length 4 mm.

Of narrower build than *semilucida*, the head narrower, a little narrower than the thorax, this also narrower and less rounded and dilated in front, with less marked median impression, the lateral margins smooth, shining, and reddish, otherwise the sculpture of the head and thorax is similar to that of

semilucida and the antennæ are formed as in that species ; the elytra, however, are more shining, extremely finely and much less closely punctured, the abdomen more sparingly punctured than in *semilucida*.

Chakrata district : Sijla Gad, alt. 5000 feet.

1734. *Falagria* (*Stenagria*) *andrewesi*, sp. n.

Head, thorax, and elytra pitchy-black, greasy lustrous, the base of the latter narrowly reddish-yellow ; abdomen shining, black, the 1st (visible) segment yellow. Antennæ reddish-yellow, the intermediate joints infusate. Legs pitchy, the bases of the femora and the tarsi yellow. Length 4 mm.

Build of *opacella*, the antennæ similarly constructed, but at once distinguished by the dull coriaceous impunctate elytra. The abdomen is densely and finely punctured.

South Mysore (*H. L. Andrewes*).

1735. *Falagria* (*Stenagria*) *genalis*, sp. n.

Pitchy-black ; head and thorax opaque ; elytra and abdomen shining, the latter with the posterior margins of the first two or three segments brownish-yellow. Antennæ pitchy, the first two and the 11th joints reddish. Legs brownish-red. Length 5 mm.

Larger than *opacella* and differs in the longer, pear-shaped head, differently coloured and less finely punctured elytra. Head pear-shaped, the temples feebly rounded and strongly obliquely converging to the neck, longitudinally impressed in the middle in front, strongly coriaceous and without puncturation. Antennæ long and slender, as in *opacella*, all the joints much longer than broad. Thorax longer than broad, a little wider than the head and with similar sculpture, broadly impressed along the middle, the fundus with a fine shining line. Elytra extremely finely, asperately and moderately closely punctured. Abdomen very finely and very sparingly punctured.

Chakrata district : Manjgaon, Konain. Simla Hills, Fagu, Kotgarh, alt. 6500–8000 feet.

1736. *Falagria* (*Stenagria*) *semlopaca*, sp. n.

Similar in build, colour, and lustre to *genalis*, but smaller (4 mm.) and narrower, the thorax only narrowly impressed with a fine rather shining median line. The elytra are about as closely punctured but more finely and not asperately, the abdomen is much more closely punctured. The legs are pitchy, with the bases of the femora and tarsi testaceous.

Mussoorie : Aglar River, Ringal Gad. Chakrata district : Chulli Khud. Simla Hills, Kotgarh, alt. 6000–8000 feet.

1737. *Falagria (Stenagria) longiceps*, sp. n.

Similar to *semiopaca* in size, build, and colour, but not so dull, more greasy lustrous, the antennæ entirely reddish-yellow, the thorax not at all impressed along the middle, but convex, with a fine median impressed line only; the sculpture of the head and thorax is much coarser and might be described as finely granular, the puncturation of the elytra and abdomen much less close.

Chakrata district : Binal Gad ; Bangar, alt. 6000–8000 feet.

1738. *Falagria (Stenagria) alutipennis*, sp. n.

Head and thorax dull pitchy-black, elytra and abdomen shining, the former brownish-yellow, extensively infusate. Abdomen black, the first two visible segments yellow. Antennæ black, the first two or three joints reddish-yellow. Legs reddish-yellow, the apical half of the middle and posterior femora infusate. Length 3.1 mm.

In build very like *semiopaca*, but with the head not quite so strongly attenuate behind, the antennæ similar. Head and thorax densely coriaceous, dull, as in *semiopaca*, but with the elytra extremely finely but roughly coriaceous and shining, the puncturation extremely fine, and so confused with the ground-sculpture as to be scarcely visible. Abdomen with puncturation and pubescence as in *semiopaca*.

Kumaun : Haldwani (*H. G. Champion*). Unique. British Museum.

Key to the Species of the Subgenus Anaulacaspis.

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| 1. Elytra at the scutellary region distinctly granular | 2. |
| Elytra otherwise | 6. |
| 2. Thorax broadly impressed along the middle and narrowly sulcate | 3. |
| Thorax not broadly impressed, only narrowly and deeply sulcate | 4. |
| 3. Elytra brown, less shining, densely and moderately finely punctured; antennæ longer | <i>densipennis</i> , sp. n., p. 256. |
| Elytra brownish-yellow, shining, very finely, less closely punctured; antennæ shorter | <i>latesulcata</i> , sp. n., p. 256. |
| 4. Antennæ black except at base | <i>subscutellatus</i> , sp. n., p. 257. |
| Antennæ otherwise | 5. |
| 5. Antennæ entirely reddish-yellow, the penultimate joints slightly transverse. Antennæ reddish-yellow, the 11th joint pitchy-black, the penultimate joints strongly transverse | <i>subrugosa</i> Kr., p. 256. |
| 6. Elytra finely punctured | <i>scutellatus</i> , sp. n., p. 257. |
| Elytra moderately finely punctured; antennæ stout | 7. |
| | <i>parva</i> Kr., p. 258. |

7. Larger (2 mm.); elytra sparingly punctured..... *gracilis* Motsch., p. 259.
 Smaller (1.5 mm.); elytra closely punctured..... *pygmæa* Kr., p. 258.

1739. *Falagria (Anaulacaspis) latesulcata*, sp. n.

Shining; head and thorax black, elytra obscure yellowish-brown, abdomen pitchy, the base lighter. Antennæ black, the 1st and 2nd joints and apex of the 11th reddish-brown. Legs testaceous. Length 3.5 mm.

Differs from *thoracica* Curt. in the colour, longer antennæ with non-transverse penultimate joints, the thorax much more dilated in front and narrowed behind, with much wider longitudinal impression, the more finely punctured elytra, the rather more finely but about as closely punctured abdomen. Head transverse, narrower than the thorax, the vertex broadly and deeply impressed in the ♂, closely and finely punctured. Antennæ rather long and stout, the penultimate joints about as long as broad, the 11th as long as the 10th. Thorax broadly and deeply impressed and sulcate, less finely and more closely punctured than the head. Scutellum granular. Elytra very finely and closely punctured (asperate at the scutellary region), rather less closely behind. Abdomen closely and finely punctured, more coarsely at the bases of the anterior segments.

Assam : Shugnu, alt. 3000 feet.

1740. *Falagria (Anaulacaspis) densipennis*, sp. n.

Head black, shining, the rest of the body less shining, dark brown. Antennæ dark brown, the 1st, 2nd, and apex of the 11th joint yellowish. Femora brown, tibiæ and tarsi yellow. Length 4 mm.

Near *latesulcata*, but larger, with more densely and less finely punctured fore-parts, the elytra darker, the puncturation dense and asperate, rather less fine about the scutellary region. Antennæ a little longer, but very similarly constructed, legs a little darker.

Mussooree district : Keyarkuli, alt. 6000 feet. Mossy Falls. Chakrata district : Sainj Khud ; Manjgaon ; Khedar Khud, alt. 5000-6000 feet. Simla Hills : Kotgarh, alt. 7000 feet.

1741. *Falagria (Anaulacaspis) subrugosa*.

Falagria subrugosa Kr., Arch. Naturg. xxv, 1859, p. 5.

Shining, reddish-brown, the last three or four segments blackish. Antennæ reddish-yellow. Legs yellow. Length 2-2.2 mm.

In size and build very similar to *sulcata* Payk. Head transverse, as broad as the thorax, the posterior angles rounded, extremely finely, moderately closely punctured. Antennæ rather long and stout, the 2nd and 3rd joints of equal length, the 4th and 5th slightly longer than broad, 7th to 10th a little transverse. Thorax formed as in *sulcata*, deeply sulcate, extremely finely, rather more sparingly punctured than the head. Scutellum strongly granular. Elytra broader and a little longer than the thorax, the scutellary region closely covered with fine granules, elsewhere with an extremely fine, moderately close puncturation. Abdomen very finely and sparingly punctured on the first three segments, rather less sparingly behind.

Ceylon : Dikoya, alt. 3800–4200 feet. Also in Borneo and Sumatra.

1742. *Falagria (Anaulacaspis) scutellatus*, sp. n.

Shining ; head black, thorax pitchy-brown, elytra brownish-testaceous, lighter at the shoulders, abdomen pitchy-black. Antennæ yellowish-red, the last joint brown. Legs testaceous. Length 3 mm.

A little larger than *subrugosa* Kr., of similar build, but less shining and less brightly coloured, the antennæ shorter, with much more strongly transverse penultimate joints, head less finely punctured, the thorax asperately and much less finely punctured, elytra more finely punctured around the scutellum, much less sparingly behind, abdomen much more closely punctured. Head transverse, almost as wide as the thorax, the posterior angles rounded, finely and moderately closely punctured. Antennæ with the 2nd and 3rd joints of equal length, 4th as long as broad, 5th to 10th transverse, gradually increasing in width, the 10th about twice as broad as long, the 11th large, almost as long as the three preceding joints together. Thorax almost as long as broad, deeply sulcate throughout, rather closely, asperately and much less finely punctured than the head. Scutellum granular. Elytra finely, asperately punctured, much more closely about the scutellum. Abdomen more coarsely and closely punctured at the bases of the anterior segments, more finely but rather closely punctured elsewhere.

Dehra Dun.

1743. *Falagria (Anaulacaspis) subscutellatus*, sp. n.

Shining ; head, thorax, and abdomen black, elytra brownish-testaceous, the suture very narrowly black, the base scarcely

infusate. Antennæ black, the 1st joint pitchy. Legs testaceous. Length 3 mm.

Near *scutellatus*, but a little more slender, the thorax and antennæ black, the elytra more shining and differently coloured, not asperately punctured except around the scutellum, and more finely punctured elsewhere, the antennæ longer, the 4th joint longer than broad, the penultimate less transverse, the 11th short, oval, scarcely as long as the two preceding joints together, the thorax more finely and sparingly, scarcely asperately punctured.

Dehra Dun : Kaligad. Almora : Dhauri Ganga.

1744. *Falagria* (*Anaulacaspis*) *parva*.

Falagria parva Kr.*, Arch. Naturg. xxv, 1859, p. 6.

Shining : head and thorax black or dark reddish-brown ; elytra brownish-yellow, darker at the base ; abdomen black, the posterior margins of the segments narrowly and obscurely reddish. Antennæ pitchy, the first two joints brownish-yellow. Legs reddish-yellow. Length 1.75–2 mm.

Head transversely suborbicular, almost as broad as the thorax, with a small impression at the middle of the base, bi-impressed in front, very finely, rather sparingly punctured. Antennæ short, thickened towards apex, the 4th to 10th joints transverse, gradually increasing in width, the penultimate about twice as broad as long. Thorax slightly transverse, the sides strongly rounded and dilated in front, rather strongly narrowed behind, the posterior angles rounded, deeply, narrowly sulcate along the middle, the sulcus wider behind, finely and sparingly punctured at the sides, more closely on the disc. Scutellum granulate. Elytra distinctly broader and a little longer than the thorax, closely and moderately finely punctured. Abdomen a little narrowed at the base, more distinctly at the apex, coarsely and closely punctured in the basal impressions, more finely and sparingly elsewhere, especially behind.

Ceylon (*Nietner*). Also in S. China.

1745. *Falagria* (*Anaulacaspis*) *pygmæa*.

Falagria pygmæa Kr.*, Arch. Naturg. xxv, 1859, p. 7 ; Cam., Trans. Ent. Soc. Lond. 1920, p. 392.

Shining ; head and thorax black or dark reddish-brown ; elytra brownish-yellow ; abdomen pitchy, the base reddish. Antennæ reddish-brown. Legs yellow. Length 1.5 mm.

Head transversely suborbicular, the postocular region a little dilated, nearly as broad as the thorax, along the middle lightly impressed, less finely and more closely punctured than in

parva. Antennæ formed as in *parva*, but much less stout. Thorax rather less dilated in front and more finely and more closely punctured than in that species; the elytra are much more finely punctured than in *parva*, the abdomen also is less coarsely punctured on the anterior segments, more finely and more closely behind than in *parva*.

Ceylon (*Nietner*). India: Dehra Dun. Siwaliks. Mussooree and Chakrata districts. Also in Singapore.

1746. *Falagria (Anaulacaspis) gracilis*.

Falagria gracilis Motsch., Bull. Mosc. xxxv, 1858, p. 260.

Size and build of *sulcatula* Gr., the colour almost the same, but with the elytra broader, and scutellum without keels. First segments of the abdomen and anus of a yellowish-brown colour, otherwise as in *sulcatula*.

"Ind. or." (ex *Motschoulsky*).

F. sulcatula is 2·2 mm. long, with reddish-brown or brownish-red fore-parts, the head and thorax scarcely perceptibly punctured, the elytra extremely finely, sparingly punctured.

Key to the Species of the Subgenus *Melagria*.

- | | |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 1. Brightly coloured species | <i>festiva</i> , sp. n., p. 259. |
| Pitchy-black species | 2. |
| 2. Base of antennæ reddish-yellow; thorax
obsoletely punctured; elytra a little
longer than the thorax | <i>beesoni</i> , sp. n., p. 260. |
| Base of antennæ pitchy; thorax very finely,
asperately punctured; elytra as long as
the thorax | <i>nigrita</i> , sp. n., p. 260. |

1747. *Falagria (Melagria) festiva*, sp. n.

Head and thorax bright reddish-testaceous, elytra and abdomen testaceous, the 5th segment often a little infusate, the former with a brown fascia extending from about the middle of the outer margin to the postero-internal angle, the area behind the fascia paler than that in front. Antennæ black, the first three joints testaceous, the 11th pitchy. Legs testaceous. Length 2 mm.

Somewhat similar in colour to *nævula* Er., but much smaller, with shorter antennæ and thorax and more sparing puncturation; in size and build near *lævigata* Epp., but with shorter, flatter head and rather more slender antennæ; the puncturation is very similar to that of *lævigata*. Head as broad as the thorax, convex, extremely finely, moderately closely punctured. Antennæ with the 2nd and 3rd joints of equal length, 4th a little longer than broad, 5th as long as broad, 6th to 10th transverse, gradually increasing in width.

Thorax slightly transverse, the sides rounded and dilated in front, sinuately retracted behind, the posterior angles obtuse, in the middle before the base with a short sulcus, the puncturation as on the head. Elytra broader and about a third longer than the thorax, extremely finely, rather sparingly punctured. Abdomen extremely finely, sparingly punctured.

Siwaliks : Lachiwala.

1748. *Falagria* (*Melagria*) *beesoni*, sp. n.

Shining, black. Antennæ black, the first three joints and the legs reddish-yellow. Length 2.2 mm.

Very like *lævigata* Epp., of similar colour, but with the head broader and flatter, thorax shorter and broader, antennæ a little shorter, but similarly constructed ; the sculpture is very similar. Head transverse, subquadrate, fully as broad as the thorax, flat, sometimes with a fine median sulcus, extremely finely, rather sparingly punctured. Antennæ with the 4th to 10th joints transverse, gradually increasing in width. Thorax about a fourth broader than long, the sides rounded and dilated in front, retracted behind, at the middle of the base with a small fovea, extremely finely, obsoletely but moderately closely punctured. Scutellum granular. Elytra broader and a little longer than the thorax, extremely finely, obsoletely, moderately closely punctured. Abdomen parallel, very finely rather closely punctured especially behind ; the impressions impunctate.

Mussooree district : Arni Gad ; Keyarkuli.

1749. *Falagria* (*Melagria*) *nigrita*, sp. n.

Very similar to *beesoni*, but a little smaller (1.5 mm.), the antennæ pitchy at the base and the legs brownish-yellow, the head more distinctly sulcate ; the thorax is obviously less finely and more closely punctured, the punctures asperate ; the elytra are shorter, only as long as the thorax, with extremely fine punctures which are a little less close than in *beesoni*. From *nigra* Gr. it differs in the smaller size, sulcate head, shorter antennæ, finer and less close puncturation.

Simla Hills : Gahan, Fagu, alt. 7000–8000 feet.

ALMORIA, gen. n.

In build resembling *Meronea* Shp., and with similar long 1st joint of the posterior tarsi ; differs, however, in the structure of the tongue and mesosternum, and also in the first three abdominal sternites being transversely grooved at their bases. Head broad, transverse, neck narrow as in *Myrmecopora* and *Meronea*, eyes rather large, temples not bordered below.

Mentum trapezoidal, broadly and feebly emarginate in front. Tongue short, linear, about as long as the 1st joint of the labial palpi, the apex with two short, slender, diverging lobes. Labial palpi 3-jointed, moderate in length, the 1st joint cylindrical, 2nd shorter and narrower, 3rd longer and narrower than the 2nd. Maxillary palpi with the 2nd joint of moderate length, slightly curved and thickened towards the apex, 3rd longer and stouter towards apex than the preceding, 4th subulate, about a third as long as the preceding. Pronotal epipleura visible from the side. Mesosternum acutely pointed, extending rather more than half the length of the coxæ, the metasternum produced to meet it, the coxæ moderately separated. Elytra scarcely emarginate postero-externally. Abdomen parallel, the first three visible tergites distinctly transversely impressed at their bases, the first three sternites transversely sulcate at their bases. Legs slender, tibiæ ciliate. Tarsi 4, 5, 5; the anterior with the first three joints short and subequal, the 4th longer than the three preceding together; middle with the first four joints rather short and subequal; posterior with the 1st joint as long as the following three together, these subequal.

1750. *Almoria championi*, sp. n.

Shining, black, the elytra and abdomen pitchy-black. Antennæ black, the first three joints and legs reddish-yellow. Length 3 mm.

Head short and broad, a little broader than the thorax, the eyes rather large, the postocular region rounded and retracted to the narrow neck, the disc with a small impression, puncturation very fine, moderately close; ground-sculpture absent. Antennæ a little thickened towards the apex, the 1st and 2nd joints rather long, equal, 3rd a little shorter than the 2nd, 4th and 5th slightly longer than broad, 6th to 8th about as long as broad and differing but little, 9th and 10th slightly transverse, 11th as long as the two preceding together. Thorax slightly transverse (3.3 : 3), sides rounded in front, rather strongly retracted behind, the posterior angles obtuse, along the middle with trace of impressed line, the puncturation on the disc very fine and about as close as on the head, much more sparing towards the sides. Elytra distinctly broader and longer (4.5 : 3) than the thorax, very finely, moderately closely punctured. Abdomen parallel, rather closely and distinctly less finely punctured than the foreparts, as closely on the posterior as on the anterior segments. Pubescence rather long, closer on the elytra and abdomen.

Kumaun : W. Almora (*H. G. Champion*). Unique. British Museum.

Genus **MYRMECOPORA** Sauley.

Myrmecopora Sauley, Ann. Soc. Ent. Fr. (4) iv, 1864, p. 429; Olliff, Proc. Linn. Soc. N. S. Wales, (2) i, 1886, p. 433; Fowler, Col. Brit. Isl. ii, 1888, p. 146; Ganglb. Kaf. Mitt.-Eur. ii, 1895, p. 249; Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, pp. 186, 189; Johansen, Danmarks Rovbiller, 1914, p. 236; Fenyès, Gen. Ins. 173 B, 1920, p. 165; Everts, Col. Neerland. iii, 1922, p. 103; Scheerp., Kol. Rundsch. xv, 1929, p. 10; id., Tierwelt Mitteleur. v, 2, 1930, p. 73.

Related to both *Falagria* and *Tachyusa*, but with the neck broader than in *Falagria* and narrower than in *Tachyusa*. Elongate, parallel, the head free, strongly constricted behind, the neck about a third of its width. Temples not bordered below. Labrum transverse, the anterior border feebly rounded or feebly and broadly emarginate. Mandibles moderate, curved, and pointed, the right with a more or less distinct tooth. Maxillary palpi with the 1st joint small, 2nd moderate, a little thickened towards apex, 3rd a little longer and a little thicker at the apex, 4th subulate, scarcely half as long as the preceding. Maxillæ with the outer lobe about as long as the inner, membranous and ciliate at apex; inner narrow, its apex pointed and incurved, with five or six fine spines along the inner margin, ciliate towards the base. Mentum transverse, trapezoidal, the anterior margin broadly, feebly emarginate. Tongue narrow, about as long as the 1st joint of the labial palpi, split to the middle into two narrow parallel lobes. Paraglossæ feeble. Labial palpi 3-jointed, 1st joint stout, narrowed towards the apex, 2nd much narrower and much shorter, 3rd narrower and about twice as long as the 2nd. Thorax with the sides strongly rounded in front, the anterior angles rounded and deflexed, the pronotal epipleura visible from the side. Prosternum more or less carinate or tuberculate in the middle of the anterior part, the posterior deflexed part rounded behind and separated from the anterior by a fine curved ridge, the anterior coxal cavities entirely membranous behind. Mesosternal process more or less acute, extending fully half the length of the coxæ, these moderately separated. Elytra a little emarginate postero-externally. Abdomen parallel, the first three visible tergites transversely impressed at the bases. Legs long and slender; tibiæ ciliate. Tarsi 4, 5, 5; the anterior with the first three joints short and subequal, the 4th about as long as the preceding three together; middle with the 1st joint fully as long as the 2nd and 3rd together, the 2nd to 4th gradually decreasing in length; posterior with the 1st joint at least as long as the 2nd and 3rd together, the 2nd to 4th decreasing in length. Claws simple, lightly curved. The species live near water, but a few are associated with ants. The genus is divided into three subgenera; the only Indian species is referable to *Myrmecopora*, s. str.

1751. *Myrmecopora nilgiriensis*, sp. n.

Shining; head pitchy, thorax reddish-brown, elytra brownish-yellow; abdomen pitchy, the first two visible segments reddish. Antennæ reddish, the first three joints and legs reddish-yellow. Length 3 mm.

In build much resembling *læsa* Er., but with differently coloured elytra, stouter antennæ, much finer thoracic groove, the head and thorax without ground-sculpture, the eyes larger. Head transversely subquadrate, as broad as the thorax, the posterior angles rounded, the eyes large, very finely, rather closely punctured and without ground-sculpture. Antennæ rather stout, the 3rd joint a little shorter than the 2nd, 4th to 9th longer than broad, cylindrical, decreasing in length, the 10th about as long as broad. Thorax as long as broad, the sides rounded and dilated in front, straight and strongly retracted behind, the posterior angles obtuse, the anterior broadly rounded, along the middle distinctly sulcate, as closely but rather more finely punctured than the head; ground-sculpture absent. Elytra broader but scarcely longer than the thorax, very finely and closely punctured. Abdomen a little narrowed at the apex, finely and closely punctured and pubescent throughout. The fore-parts very finely and moderately closely pubescent.

Nilgiri Hills, alt. 3500 feet (*Andrewes*). Unique. My collection.

Genus **TACHYUSA** Er.

Tachyusa Er., Kaf. Mark Brand. i, 1837-39, p. 307; id., Gen. Spec. Staph. 1839 40, p. 69; Redtb., Faun. Austr. ed. i, 1849, p. 654, ed. ii, 1858, p. 123, and ed. iii, 1874, p. 148; Lacord., Gen. Col. ii, 1854, p. 31; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 148; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 7; Fowler, Col. Brit. Isl. ii, 1888, p. 143; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 243; Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, pp. 186, 204; Reitter, Faun. Germ. ii, 1909, pp. 72, 73; Blatchley, Col. Indiana. i, 1910, p. 347; Johansen, Danmarks Rovbiller, 1914, p. 230; Fenyès, Gen. Ins. 173 B, 1920, p. 169; Portevin, Encycl. Ent. A, xii, 1929, i, p. 292; Schoerp., Kol. Rundsch. xv, 1929, p. 10; id., Tierwelt Mitteleur. v, 2, 1930, p. 73.

Subgen. *Caliusa* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 383; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 248; Fenyès, Gen. Ins. 173 B, 1920, p. 173; Portevin, Encycl. Ent. A, xii, 1929, i, p. 293.

Subgen. *Thinonoma* Thoms., Skand. Col. iii, 1861, p. 5; Ganglb., Käf. Mitt.-Eur. iii, 1895, p. 244; Reitt., Faun. Germ. ii, 1909, p. 72; Johansen, Danmarks Rovbiller, 1914, pp. 232, 234; Fenyès, Gen. Ins. 173 B, 1920, p. 171.

In facies somewhat like *Calodera* Mannerh. Head prominent, constricted behind, the neck stout, fully half as broad as the head, but concealed by the anterior border of the thorax. Temples not bordered below. Gular sutures parallel, distant.

Labrum transverse, the anterior angles rounded, the front truncate or slightly emarginate. Mandibles moderately long, curved, pointed, usually with a very small tooth about the middle of the internal border. Maxillary palpi rather long, 1st joint small, 2nd elongate, slightly thickened towards apex, 3rd a little longer and a little thicker at apex, 4th short, subulate. Outer lobe of the maxilla shorter than the inner, ciliate at apex; inner lobe narrow, pointed and incurved at apex, with numerous rather long teeth, near the base with two or three yet longer ones, and some long hairs. Mentum transverse, trapezoidal, the anterior margin nearly truncate. Tongue narrow, split to the middle into two narrow diverging lobes. Labial palpi 3-jointed, the 1st joint cylindrical, longer than the tongue, as long as the 2nd and 3rd joints together, 2nd narrower and much shorter than the 1st, 3rd narrower and much longer than the 2nd. Thorax finely bordered at the sides and base. Prosternum with a tubercle in the middle of the anterior part, the posterior longer and deflexed. Pronotal epipleura rather broad, visible from the side. Mesosternal process briefly rounded at apex, extending about half the length of the coxæ, these narrowly separated. Metasternal process a little broader, truncate at apex and separated by a very short intersternal piece from the mesosternum. Elytra emarginate postero-externally. Legs long and slender; tibiæ finely pubescent. Tarsi 4, 5, 5; the anterior with the first three joints short, subequal, the 4th as long as the three preceding together; middle with the 1st joint a little longer than the 2nd, 2nd to 4th gradually decreasing in length; posterior with the joints elongate, the 1st often as long as the 2nd and 3rd together, always as long as the 5th, 2nd to 4th gradually decreasing in length. Abdomen parallel or constricted at the base, with the first two or three (visible) tergites deeply transversely impressed at their bases, the first three sternites transversely constricted at their bases.

The genus is subdivided into three subgenera, two of which are found in our Fauna.

Key to the Subgenera.

Abdomen not or but slightly constricted at the base; only the first two visible tergites transversely impressed	[p. 264.
Abdomen strongly constricted at the base; the first three visible tergites transversely impressed; bicolorous, red and black.	THINONOMA THOMS., [p. 265.
	CALUSA MULS. et Rey,

1752. *Tachyusa* (*Thinonoma*) *asperata*.

Tachyusa asperata Cam., Sarawak Mus. Jour. iii, 1928, p. 418.

Subopaque, pitchy, densely, finely sculptured and pubescent throughout. Abdomen scarcely constricted at the base.

Scutellum, base and apical margins of the elytra testaceous-yellow. Antennæ pitchy, the first three joints and the last testaceous. Femora pitchy, the tibiæ and tarsi testaceous. Length 2.75 mm.

Very similar in build to *scitula* Er., but more opaque, and differently coloured and sculptured.

Head black, closely and finely granulate, finely pubescent. Antennæ rather long, slender, all the joints longer than broad, the 3rd longer than 2nd. Thorax scarcely transverse, rounded in front, widest a little behind the anterior angles, more strongly narrowed and feebly arcuate behind, posterior angles obtuse; before the scutellum with a small fovea; similarly sculptured to the head. Elytra broader but as long as the thorax, slightly transverse, equally densely but more finely sculptured than the fore-parts, finely pubescent. Abdomen with the first two segments transversely impressed, very finely and very closely punctured and pubescent throughout, scarcely more sparingly behind.

Assam: Mishmi Hills, Lohit River, 20. iii. 35 (*M. Steele*). The type is from Borneo.

Key to the Species of the Subgenus Caliusa.

- | | | |
|-----------------------------------------------------------------------------|----|-------------------------------------|
| 1. Thorax bright red | 2. | |
| Thorax more obscurely coloured | 3. | [p. 268. |
| 2. Elytra uniformly coloured, brownish-red . . | | <i>schuberti</i> Jacobson. |
| Elytra pitchy, the posterior margin narrowly yellow | | <i>elegans</i> , sp. n., p. 266. |
| 3. Elytra uniformly coloured | | <i>louisiana</i> Cam., p. 267. |
| Elytra with the base and apical margin narrowly yellow | 4. | |
| 4. Head and thorax shining; legs entirely reddish-yellow | | [p. 265. |
| Head and thorax greasy lustrous; femora broadly infusate apically | | <i>cordicollis</i> Bernh., [p. 266. |
| | | <i>apicipennis</i> , sp. n.. |

1753. **Tachyusa (Caliusa) cordicollis.**

Tachyusa cordicollis Bernh., D. E. Z. 1902, p. 23.

Shining, black, the first two abdominal segments, the elytra, base of the antennæ, mouth-parts and legs reddish-yellow, very finely punctured, the thorax slightly transverse, the sides sinuate. Length 2-2.4 mm. ($\frac{1}{8}$ -1 lin.).

In build and colour similar to *ferialis* Er., but smaller, less brightly coloured, the thorax shorter, the antennæ much more slender. Head black, with bronze reflex, scarcely perceptibly punctured, very shining. Antennæ long and slender, a little thickened towards the apex, the 3rd joint as long as but more slender than the 2nd, the 4th much shorter, elongate, much longer than broad, the following gradually decreasing in length and breadth, the penultimate as long as broad, the 11th as long as the 9th and 10th together. Thorax

narrower than the head, much narrower than the elytra, slightly transverse, about a third broader than long, widest at the anterior fourth, sinuately narrowed behind, the base prominent, rounded, convex, very finely and closely punctured, before the scutellum with distinct fovea, obscure reddish-yellow. Elytra longer than the thorax, blackish-brown with slight metallic reflex, the base and the apical margin narrowly yellowish, extremely finely, scarcely perceptibly and not closely punctured, sparingly pubescent. Abdomen narrowed at the base, the first three visible segments deeply transversely impressed at their bases, the impressions coarsely, elsewhere extremely finely and sparingly punctured, shining, the 3rd, 4th, and base of the 5th segments reddish-yellow, the rest black with slight metallic reflex.

Ceylon: Anuradhapura. Two specimens (ex *Bernhauer*).

1754. *Tachyusa (Caliusa) elegans*, sp. n.

Shining; head black; thorax bright red; elytra pitchy, the posterior margin narrowly testaceous; abdomen black, the first two segments red. Antennæ black, the first two joints and the last reddish-brown. Legs testaceous, the apices of the femora scarcely infusate. Length 3 mm.

Smaller and narrower than *ferialis* Er., with darker antennæ and shorter thorax, which is distinctly sinuate behind, with prominent posterior angles. Head very finely, obsoletely punctured. Antennæ as in *ferialis*, but thinner, the 2nd and 3rd joints of equal length, 4th to 10th longer than broad, gradually decreasing in length, the penultimate only slightly so, the 11th nearly as long as the two preceding together.

Thorax about as long as broad, rounded and dilated in front, narrowed and sinuate behind, before the scutellum foveate, very finely, moderately closely, more distinctly punctured than the head. Elytra longer and broader than the thorax, about as long as broad, finely but rather more closely punctured than the thorax. Abdomen narrowed at the base, very finely and very sparingly punctured, coarsely and closely in the deep transverse basal impressions.

Dehra Dun. Bihar: Pusa.

1755. *Tachyusa (Caliusa) apicispennis*, sp. n.

Pitchy-black, the head and thorax greasy lustrous, the elytra and abdomen shining, the former with the apical margin narrowly yellow, the latter with the posterior margins of the 1st and 2nd (visible) segments broadly, the 3rd narrowly reddish-yellow. Antennæ black, the first three joints reddish-yellow. Legs reddish-yellow, the femora rather broadly infusate apically. Length 3.5 mm.

Head orbicular, narrower than the thorax, the eyes large, lightly impressed on the disc, finely, moderately closely, asperately punctured. Antennæ long and slender, all the joints much longer than broad, gradually decreasing in length from the 4th, the penultimate distinctly longer than broad, the 11th elongate, but shorter than the 9th and 10th together. Thorax as long as broad, the sides rounded and dilated in front, sinuately retracted behind to the obtuse and somewhat prominent posterior angles, along the middle broadly impressed almost to the anterior border, closely covered with moderately fine granules. Scutellum asperately punctured. Elytra broader and about a third longer than the thorax, rather closely, finely and asperately punctured. Abdomen narrowed at the base, the first three visible segments strongly transversely impressed, the impressions closely and coarsely punctured, elsewhere very finely punctured, sparingly on the first three segments, more closely on the last three. The whole insect finely pubescent.

This species has a build somewhat similar to *serialis* Er., but is larger and more robust, with the sides of the thorax more retracted and sinuate behind.

United Provinces : Rohatgaon.

1756. *Tachyusa (Caliusa) lewisiana*.

Tachyusa lewisiana Cam., E. M. M. lvi, 1920, p. 95.

Pitchy, shining, the first two visible abdominal segments fusco-testaceous, the rest shining black : the two basal joints of the antennæ and the legs testaceous, the rest of the former scarcely infuscate. Length 3 mm.

In build very similar to *balteata* Er., the head more contracted behind, the thorax a little narrower posteriorly, and the elytra rather more ample. Head finely and not very closely punctured and pubescent, the temples strongly converging posteriorly, the disc with median impressed line, the eyes large. Antennæ with the 2nd and 3rd joints of equal length, the 4th to the 10th all longer than broad, gradually decreasing in length, so that the 10th is but a little longer than wide, the 11th about as long as the two preceding together. Thorax pitchy-brown, of the width of the head, a little longer than broad, the sides rounded in front, contracted in a nearly straight line to the obtuse posterior angles ; finely and not very closely punctured, finely pubescent. Elytra a little longer and distinctly broader than the thorax, very slightly transverse, finely and not very closely punctured and pubescent. Abdomen moderately constricted at the base, the first two visible segments obscurely fusco-testaceous, the rest shining black ; very finely and very sparingly punctured, pubescence rather long and scanty.

Ceylon : Kandy, alt. 1546-1727 feet (*G. Lewis*).

1757. *Tachyusa* (*Caliusa*) *schuberti*.*Tachyusa schuberti* Jacobson, Käf. Russl. 1909, p. 540.*Tachyusa bicolor* Schub., D. E. Z. 1906, p. 379 (præoc.).

Brownish-red, somewhat shining, extremely finely and extremely densely punctured, finely pubescent, abdomen from the 5th segment, the head and metasternum black; thorax quadrate, convex. Length 2·7 mm.; breadth nearly 0·5 mm.

Differs from all the species known to me by the absence of an impression before the base of the thorax; it is near *agilis* Er. Very distinct by the bright brownish-red colour, the elytra about the scutellum and along the outer half slightly infusate, the legs also to some extent. Head, metasternum, and abdomen from the 5th segment, black. Antennæ with lighter base, infusate towards the apex. Head suborbicular, black, shining, punctured, eyes not prominent. Antennæ long and slender, almost reaching the apical margin of the elytra, not much thickened towards the apex, the 2nd and 3rd joints of equal length, the penultimate a little broader than long, 11th as long as the preceding two together. Thorax as long as broad, convex, slightly shining, finely and closely pubescent, posterior angles obtuse, the anterior rounded, the posterior margin obliquely truncate from the posterior angles, without impression; by strong magnification the uniformly greasy lustrous surface shows a ground-sculpture and an extremely fine and dense puncturation, the elytra also; these are about a third longer than the thorax, the sides a little rounded and dilated, the posterior angles scarcely emarginate. Abdomen moderately constricted at the base, the 3rd to 5th segments transversely impressed, rather shining, smooth, at the sides with stronger pubescence, the apex scarcely lighter.

Kashmir, Jhelam River (ex *Schubert*).

Genus **GNYPETA** Thoms.

Gnypeta Thoms., Öfv. Svenska Vet.-Akad. Forh. 1858, p. 33, id., Skand. Col. iii, 1861, p. 6; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 367; Fowler, Col. Brit. Isl. ii, 1898, p. 142; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 241; Everts, Col. Neerl. i, 1898, p. 227; Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, pp. 185, 192; Reitter, Faun. Germ. ii, 1909, p. 71; Blatchley, Col. Indiana, i, 1910, p. 348; Fenyès, Canad. Ent. xlv, 1912, p. 112; id., Gen. Ins. 173 B, 1920, p. 162; Johansen, Danmarks Rovbiller, 1914, p. 227; Portevin, Encycl. Ent. A, xii, 1929, i, p. 290; Scheerp., Kol. Rundsch. xv, 1929, p. 10; id., Tierwelt Mitteleur. v, 2, 1930, p. 73.

Euliusa Cas., Trans. Acad. Sci. St. Louis, xvi, 1906, p. 215.

Gnypetoma Cas., l. c. p. 196.

Allied to *Atheta* and *Tachyusa*; distinguished from the former by the first two or three ventral abdominal segments being transversely constricted or sulcate at their bases,

from the latter by the shorter 1st joint of the posterior tarsi, which is shorter than the following two together. Head distinctly constricted behind, the neck moderately broad, the temples not bordered below. Labrum transverse, broadly and feebly emarginate in front, the anterior angles rounded. Mandibles moderate, curved, pointed, the right sometimes with a feeble tooth. Maxilla with the outer lobe truncate and ciliate at apex, the inner pointed and a little incurved at apex, the apical half internally with several slightly curved slender spines, the basal half densely ciliate. Maxillary palpi with small 1st joint, 2nd slightly curved, slightly thickened towards apex, 3rd longer and stouter at apex than the 2nd, 4th subulate, less than half the length of the preceding. Mentum transverse, a little narrowed towards the front, the anterior border feebly and broadly emarginate. Labial palpi 3-jointed, the 1st joint cylindrical, 2nd narrower and about half as long, 3rd narrower, but longer than the 2nd, rounded at apex. Tongue about half as long as the 1st joint of the labial palpi, split almost to the narrow base into two narrow lobes rounded at apex. Thorax usually transverse, the pronotal epipleura visible from the side. Prosternum with short anterior part more or less tuberculate in the middle. Mesosternum simple, its process extending beyond the middle of the coxæ, its apex narrowly truncate; metasternal process nearly meeting the mesosternum, its apex rounded, the intersternal piece short, the coxæ moderately separated. Elytra a little emarginate postero-externally. Abdomen with the first three visible tergites transversely impressed at their bases (*Gnypeta*, s. str.), or the first four (*Gnypetalia*, subgen. n.), the first two or three sternites transversely constricted or sulcate at the bases. Legs moderate, the tibiæ ciliate. Tarsi 4, 5, 5: the anterior with the first three joints short and subequal; the middle with the first four rather short; posterior with the 1st joint shorter than the 2nd and 3rd together, 2nd to 4th gradually decreasing in length.

The species are found in marshes and other damp places.

Key to the Subgenera.

First three visible tergites of abdomen transversely impressed at the bases	GNYPETA, s. str., p. 270.
First four visible tergites transversely impressed	[n., p. 271.
	GNYPETALIA, subgen.

Key to the Species of Gnypeta, s. str.

1. Black species, the fore-parts with strong bluish-green reflex	<i>cyanea</i> , sp. n., p. 270.
Otherwise coloured	2.
2. Elytra distinctly longer than the thorax, this red	<i>riparia</i> Motsch., p. 270.
Elytra not longer than the thorax, this pitchy	<i>elegans</i> Bernh.†, p. 271.

† See footnote, p. 271.

1758. *Gnypeta* (s. str.) *cyanea*, sp. n.

Shining, black, the head, thorax, and elytra with strong bluish-green reflex. Antennæ black. Legs pitchy, tarsi reddish. Length 3.75 mm.

Similar to *cærulea* Sahlb. in colour, but with the head and thorax a little narrower, the antennæ a little stouter, and the puncturation of the fore-parts much finer. Head narrower than the thorax, rounded behind the large eyes, extremely finely, rather closely punctured, very finely coriaceous. Antennæ with the 2nd and 3rd joints of equal length, 4th to 7th a little longer than broad, gradually decreasing in length, 8th to 10th about as long as broad or very slightly transverse, 11th as long as the preceding two together. Thorax a third broader than long, the sides rounded in front, retracted and straight behind, very feebly impressed before the scutellum, extremely finely, moderately closely punctured, very finely coriaceous. Elytra broader and about a half longer than the thorax, extremely finely, closely punctured. Abdomen a little narrowed before the apex, finely and rather closely punctured throughout. The whole insect with a fine yellowish pubescence.

Kashmir : Gulmarg, alt. 8000-9000 feet.

1759. *Gnypeta* (s. str.) *riparia*.

Autalia riparia Motsch.*, Ét. Ent. viii, 1859, p. 93.

Rather shining, head and abdomen (except the base) black, thorax and base of the abdomen red, elytra brownish-black, the posterior margin narrowly yellow. Antennæ black, the first three joints and the last reddish-yellow. Legs reddish-yellow. Length 2.3 mm.

Somewhat resembling *variegata* Bernh., but with larger eyes, stouter antennæ, thorax more narrowed behind, the puncturation throughout much finer and less close. Head as broad as the thorax, very finely, moderately closely punctured, the eyes large, a little longer than the post-ocular region. Antennæ thickened towards apex, the 2nd and 3rd joints of equal length, 4th longer than broad, the following gradually decreasing in length, the penultimate about as long as broad, 11th about as long as the 9th and 10th together. Thorax about as long as broad, the sides rounded in front, retracted and sinuate behind, the posterior angles obtuse, before the scutellum with a small fovea, the puncturation very similar to that of the head. Elytra about a third longer and a good deal broader than the thorax, very finely, moderately closely punctured. Abdomen a little narrowed at the base, very finely, moderately closely punctured.

"Ind. or." Madura.

1760. *Gnypeta* (s. str.) *elegans*.

Gnypeta elegans Bernh., D. E. Z. 1902, p. 22.

Pitchy-black, somewhat shining, elytra smoky-brown, with the apical margin and a humeral spot testaceous, base and apex of the antennæ testaceous, tibiæ and tarsi testaceous, the femora more obscure, thorax slightly transverse, the elytra shorter, closely and finely punctured. Length 2.5 mm. (1 lin.).

Easily distinguished by the colour and short elytra. Pitchy-black or pitchy-brown, moderately shining, the fore-parts very finely and very closely punctured, the abdomen as finely but more sparingly punctured, very finely pubescent. Head only a little narrower than the thorax, moderately transverse, with rather large eyes, the temples below entirely and sharply bordered †. Antennæ long and slender, the 3rd joint much shorter than the 2nd, the 4th only slightly broader, but about a half shorter than the 3rd, elongate, longer than broad, the 5th to 7th of similar build, shorter than the 4th, the three following gradually becoming shorter, as long as broad, the last joint elongate, but shorter than the preceding two together. The colour of the antennæ is brownish, with the first three or four joints and the last bright yellow. Thorax much narrower than the elytra, about a third broader than long, widest in the anterior third, rather strongly narrowed behind, convex, before the scutellum with a small impression, pitch-brown. Elytra almost shorter than the thorax, strongly transverse, the shoulders prominent, not emarginate internal to the postero-external angles, brown, the apical margin, humeral angles, and base near the scutellum narrowly yellow. Abdomen constricted at the base, the first three segments transversely impressed at their bases, black, the posterior margin of the first two (visible) segments yellow.

Two specimens from Weligama (Ceylon), apparently found on the sea-coast (ex *Bernhauer*).

1761. *Gnypeta* (*Gnypetalia*) *indica*, sp. n.

Shining, head black; thorax reddish-brown; elytra smoky-brown; abdomen red, the 4th and 5th visible segments in greater part blackish. Antennæ black, the first four joints and the legs reddish-yellow. Length 2.75–3 mm.

Head suborbicular, narrower than the thorax, eyes rather large, but shorter than the post-ocular region, the front distinctly impressed in the middle, extremely finely, moderately closely punctured. Antennæ moderate, 2nd and 3rd joints of equal length, 4th about as long as broad, 5th scarcely,

† The temples in *Gnypeta* are not margined below, and this species therefore cannot be properly referred to it.

6th to 10th slightly transverse, not increasing in width, 11th a little longer than the 9th and 10th together. Thorax a little transverse, the sides rounded in front, straighter and retracted behind, the posterior angles obtuse, before the scutellum with a small impression, extremely finely, rather closely punctured. Scutellum granular. Elytra broader and a little longer than the thorax, extremely finely, rather closely punctured. Abdomen nearly parallel almost to the apex, in the impressions coarsely and closely punctured, elsewhere extremely finely and sparingly, much more closely on the last two segments. The whole insect very finely and rather closely pubescent.

Mussooree district : Kolhu Khet Gad.

Genus **BRACHYUSA** Muls. et Rey.

Brachyusa Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 351 ; Ganglb., Col. Mitt.-Eur. ii, 1895, p. 240 ; Evarts, Col. Neerl. i, 1898, p. 227 ; Reitt., Faun. Germ. ii, 1909, p. 72 ; Johansen, Danmarks Rovbiller, 1914, p. 229 ; Fenyès, Gen. Ins. 173 B, 1920, p. 161 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 291 ; Scheerp., Tierwelt Mitteleur. v, 2, 1930, p. 73.

ECOLOGY.—Joy, E. M. M. xlii, 1906, p. 256.

In facies somewhat resembling *Atheta*, subgen. *Acrotona* ; somewhat fusiform, the abdomen narrowed from base to apex. Head strongly constricted behind, neck moderately broad, concealed by the anterior border of the thorax ; eyes large. Temples not bordered below ; gular sutures distant, parallel. Labrum transverse, deeply emarginate in front, crescentic, with membranous border. Mandibles rather long, slender, pointed, edentate. Maxillary palpi rather long, the 1st joint small, 2nd narrow at base, gradually thickened towards apex, 3rd longer and thicker than the 2nd, 4th short, subulate. Maxillæ with the outer lobe shorter than the inner, rather narrow, ciliate at apex ; inner lobe narrow pointed, with several moderately long spines along the inner border. Mentum short, transverse, trapezoidal, feebly emarginate in front. Tongue shorter than the 1st joint of the labial palpi, a little widened towards the apex and divided into two short, rounded lobes by a triangular emargination. Labial palpi 3-jointed, the 1st joint stout, cylindrical, 2nd narrower and very short, 3rd yet narrower and almost as long as the 1st. Paraglossæ feeble. Thorax transverse, the pronotal epipleura broad, partly visible from the side. Anterior part of the prosternum short, the posterior deflexed part longer, scarcely carinate in the middle. Mesosternum simple, its process short and broad, truncate at apex, scarcely extending half the length of the coxæ ; metasternal process long and narrow, reaching the mesosternum, the coxæ moderately separated. Elytra scarcely sinuate within the postero-external angles.

Legs long and slender, the tibiæ ciliate. Tarsi 4, 5, 5; the anterior with the first three joints short, the 4th fully as long as the preceding three together; middle with the 1st joint a little shorter than 2nd, this moderately long, 3rd and 4th equal, shorter than 2nd, 5th as long as the 3rd and 4th together; posterior with the 1st joint elongate, as long as the 2nd and 3rd together †, 2nd to 4th rather long, gradually decreasing in length, 5th scarcely longer than the 4th. Abdomen pointed, only the 1st visible segment distinctly transversely impressed at the base. The species are found at the margins of ponds and streams.

Key to the Species.

- Larger (3.5 mm.); elytra longer than thorax,
the posterior margin obscurely yellow . . . *beesoni*, sp. n., p. 273.
Smaller (2.5 mm.); elytra as long as the
thorax, the posterior margin distinctly
yellow *velox*, sp. n., p. 273.

1762. *Brachyusa velox*, sp. n.

Rather shining, black, the elytra pitchy-black with the posterior margin narrowly yellow. Antennæ black, the 1st joint pitchy. Legs yellow. Length 2.5 mm.

Near *raptoria* Woll. (described as a *Tachyusa*), but smaller and of narrower build, the antennæ thinner, the puncturation of the fore-parts finer, the elytra with the posterior margin distinctly yellow. Head nearly as broad as the thorax, the eyes large and rather prominent, extremely finely, obsoletely and closely punctured. Antennæ slender, the 2nd and 3rd joints of equal length, 4th to 7th longer than broad, gradually decreasing in length, the 8th to 10th as long as broad, equal amongst themselves, the 11th about as long as the two preceding together. Thorax slightly transverse, the sides rounded in front, straighter and slightly retracted behind to the obtuse posterior angles, as closely but much more distinctly punctured than the head. Elytra as long as but a little broader than the thorax, very closely and a little more finely punctured. Abdomen narrowed from base to apex, the 1st visible segment only slightly transversely impressed at the base, extremely finely and densely punctured and pubescent throughout, less shining than the fore-parts.

Dehra Dun.

1763. *Brachyusa beesoni*, sp. n.

In colour and lustre very similar to *velox*, but much larger (3.5 mm.) and more robust, in size and build more like *concolor* Er.

† Not as long as the 2nd to 4th together as usually stated.
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The antennæ are formed as in *velox*, but are stouter, the head and especially the thorax more obsoletely punctured, the elytra are about a third longer than the thorax, and the posterior margin is more narrowly and obscurely yellow. The femora are a little infusate.

Simla Hills: Kotgarh. Chakrata district: Chulli Khud. Mussooree district: Arni Gad; Dhobi Ghat, alt. 7000-8000 feet.

Genus **AMISCHA** Thoms.

Amischa Thoms., Öfv. Svenska Vet.-Akad. Forh. 1858, p. 33; id., Skand. Col. ii, 1860, p. 292; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 96; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 214; Reitter, Faun. Germ. ii, 1909, p. 50; Casey, Mem. Col. i, 1910, p. 97; Johansen, Danmarks Rovbiller, 1914, p. 195; Fenyès, Gen. Ins. 173 B, 1920, p. 178; Munster, Nyt. Mag. Naturvid. lxxv, 1927, p. 276; Portevin, Encycl. Ent. A, xii, 1929, i, p. 290; Scheerp., Kol. Rundsch. xv, 1929, p. 13; id., Tierwelt Mitteleur. v. 2, 1930, p. 74.

Colposura Cas., Ann. New York Acad. Sci. viii, 1893, p. 336.

Small, subparallel, subdepressed. Head subtriangular, exserted, widest behind; temples not bordered below, neck about two-fifths its width; gular sutures diverging behind. Labrum transverse, feebly broadly emarginate in front, the anterior angles rounded. Mandibles rather stout, curved, pointed, the right with a small obtuse tooth a little behind the apex. Maxillæ with the outer lobe shorter than the inner, obliquely truncate and ciliate at apex, inner lobe narrower, pointed and incurved at the apex, along the inner border of the apical half furnished with rather long stout spines, ciliate towards the base. Maxillary palpi with small 1st joint, the 2nd cylindrical, 3rd a good deal longer than the 2nd and thickened towards apex, 4th rather short, subulate. Mentum transverse, trapezoidal, its anterior border feebly and broadly emarginate. Tongue short and broad, about as long as the 1st joint of the labial palpi, narrowed towards the rounded apex, the sides sinuate. Labial palpi 3-jointed, the 1st joint rather stout, cylindrical, 2nd a little narrower and about half as long, 3rd yet narrower and a little longer than the 2nd, bluntly pointed. Thorax transverse, the pronotal epipleura visible from the side. Prosternum with the deflexed posterior part shorter than the anterior, obtusely angulate behind. Mesosternum simple, its process acute, extending rather more than half the length of the coxæ and nearly meeting the acute metasternal process, the coxæ narrowly separated. Elytra a little emarginate internal to the postero-external angle. Tarsi 4, 5, 5; the anterior with the first three joints short and subequal, the 4th nearly as long as the first three together; middle with the first four joints short (but longer than the

anterior), subequal; posterior with the first four joints gradually decreasing in length, the 1st not much longer than the 2nd. Abdomen with the first three visible tergites transversely impressed at the base. This genus has by some authors been regarded as a subgenus of *Atheta*; it is, however, at once distinguished by the formation of the tongue. The genus is widely distributed.

Key to the Species.

Larger (2 mm.) and darker *kashmirica*, sp. n., p. 275.
 Smaller (1.3 mm.) and brightly coloured ... *colorata*, sp. n., p. 275.

1764. *Amischa kashmirica*, sp. n.

Greasy lustrous; head black; thorax and elytra pitchy-brown; abdomen pitchy-black, the posterior margins of the segments narrowly and obscurely reddish, the last segment more extensively so. Antennæ blackish, the first two joints and the legs reddish-yellow. Length 2 mm.

An obscurely coloured species, varying in the depth of the colour, narrower than *cavifrons* Shp., and with thinner antennæ. Head narrower than the thorax, dilated behind, the eyes flat and rather small, the vertex impressed in the ♂, extremely finely, moderately closely punctured, finely coriaceous. Antennæ with the 3rd joint a little shorter than the 2nd, 4th slightly, 5th to 10th a little more transverse but scarcely increasing in width, 11th short and stout. Thorax nearly a half broader than long, the sides gently and evenly rounded, in the middle behind broadly but superficially impressed in the ♂, in the ♀ with a small impression, moderately closely, less finely punctured than the head, the ground-sculpture very fine. Elytra broader and a little longer than the thorax, very finely and closely punctured. Abdomen nearly parallel, very finely and closely punctured, a little more sparingly behind, closely pubescent. The fore-parts finely and rather closely pubescent.

♂: 8th dorsal segment deeply, broadly arcuately emarginate (more broadly than in *cavifrons*); 6th ventral segment produced, scarcely narrowed, broadly and slightly emarginate.

♀: 8th dorsal segment broadly but less deeply emarginate than in the ♂.

Kashmir: Gulmarg.

1765. *Amischa colorata*, sp. n.

Shining; head black, thorax yellowish-red, elytra pitchy-black, the shoulders reddish, abdomen black, the first two visible segments and the last yellowish-red. Antennæ and legs reddish-yellow. Length 1.3 mm.

A small, fragile, brightly coloured species. Head narrower than the thorax, widened behind, the eyes small, much shorter than the post-ocular region, extremely finely and indistinctly punctured, very finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th small, transverse, 5th to 10th more strongly, the penultimate joints twice as broad as long, the 11th as long as the 9th and 10th together. Thorax transverse (2.5 : 2), the sides gently rounded, a little retracted behind, the posterior angles rounded, the sculpture as on the head. Elytra broader, and a fourth longer than the thorax, very finely, rather closely punctured. Abdomen a little narrowed before the apex, extremely finely, moderately closely punctured on the first three segments, much more sparingly behind.

The specimens present no sexual characters.

Ghum district : Tiger Hill, alt. 8000–10,000 feet.

Genus **SIPALIA** Muls. et Rey.

Sipalia Muls. et Rey, Opusc. Ent. ii, 1853, p. 45; Bernh., W. Z. B. xlix, 1899, p. 430; Reitt., Faun. Germ. ii, 1909, p. 45; Casey, Mem. Col. ii, 1911, p. 157; Fenyès, Gen. Ins. 173 B, 1920, p. 249; Scheerp., Kol. Rundsch. xv, 1929, p. 16; id., Tierwelt Mitteleur. v, 2, 1930, p. 75; id., Sitz.-Ber. Akad. Wiss. Wien, i, cxl, 1931, p. 425.

Subgen. *Sipalia*, s. str., Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. v, 1871, p. 239; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 216.

Geostiba Thoms., Öfv. Svenska Vet.-Akad. Forh. 1858, p. 33; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 216; Johanson, Danmarks Rovbiller, 1914, p. 197; Portevin, Encycl. Ent. A, xii, 1929, i, p. 258.

Sibiota Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, p. 350 (ex parte).

Typhlusida Casey, l. c. p. 263.

BIOLOGY.—Xamheu, Rev. d'Ent. ix, 1890, p. 183; id., Ann. Soc. Linn. Lyon, xxxviii, 1891, p. 169, xlv, 1898, p. 206; id., Échange, xxvi, 1910, p. 23.

Elongate species. Head usually small, rounded or oval, eyes very small or quite rudimentary; temples not bordered below. Antennæ with the penultimate joints transverse. Thorax moderately transverse, the pronotal epipleura visible from the side, the pubescence on the disc longitudinally placed. Elytra not longer than the thorax, in the males often with a boss on either side of the suture, or impressed; apterous. Abdomen parallel or a little narrowed at apex, or widened behind, the first three (visible) tergites transversely impressed, the 7th in the males with one or two elongate tubercles or keels. Differs from *Ousipalia* in the ♂ characters and the longitudinal arrangement of the pubescence on the disc of the thorax.

1766. *Sipalia circellaris*.

Aleochara circellaris Gr., Mon. Col. Micr. 1802, p. 155; Er., Käf. Mark Brand. i, 1837-39, p. 315 (*Homalota*); id., Gen., Spec. Staph. 1839-40, p. 98; Redtb., Faun. Austr. ed. i, 1849, p. 659, ed. ii, 1858, p. 128, ed. iii, 1874, p. 159; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 326; Thomson, Skand. Col. iii, 1861, p. 104 (*Geostiba*); Sharp, Trans. Ent. Soc. Lond. 1869, p. 160 (*Homalota*); Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iv, 1875, p. 310 (*Sipalia*); Fowler, Col. Brit. Isl. ii, 1888, p. 91, tab. 45, fig. 1, 1a, p. 91 (*Homalota*); Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 216 (*Geostiba*); Everts, Col. Neerl. i. 1908, p. 200; Reitt., Faun. Germ. ii, 1909, p. 45, tab. 43, fig. 22; Johansen, Danmarks Rovbiller, 1914, p. 197, fig. 77; Everts, Col. Neerl. iii, 1922, p. 92; Portevin, Encycl. Ent. A, xii, 1929, i, p. 260; Lindroth, Insektenfaun. Islands, Zool. Bidr. Upsala, xiii, 1931, p. 185.

Aleochara contigua Steph., Ill. Brit. Ent. Mand. v, 1832, p. 116. *Homalota cursor* Motsch., Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 251.

Homalota cursoria Gemm. et Har., Cat. Col. ii, 1868, p. 533.

Bolitochara inqualis Mannerh., Mém. Prés. Acad. Sci. St. Petersb. i, 1830, p. 490.

Aleochara rufescens Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 128.

Homalota venustula Heer, Faun. Helv. i, 1838-42, p. 340; Cam., E.M. M. xlix, 1913, p. 158; Bernh., Munch. Kol. Zeitschr. iv, 1915, p. 45.

Elongate, rather shining, lighter or darker reddish-brown, the head and abdomen usually pitchy-black or pitchy-brown, the apex yellowish-brown. Antennæ and legs reddish-yellow. Length 2-3 mm.

Head round, convex, narrower than the thorax, the eyes small, extremely finely, scarcely perceptibly and sparingly punctured, very finely coriaceous. Antennæ moderate, thickened towards the apex, the 3rd joint as long as the 2nd, 4th about as long as broad, 5th to 10th gradually more transverse, the penultimate about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax scarcely broader than long, the sides gently rounded, a little retracted behind, the posterior angles rounded, in the ♂ with a large deep depression before the scutellum, so that the basal margin here appears to be elevated, in the ♀ with a slighter impression, finely but distinctly, moderately closely punctured, more distinctly coriaceous than the head. Elytra a little shorter and a little broader than the thorax, slightly widened behind, rather strongly, closely, and roughly punctured, in the ♂ at the base near the suture with a rounded boss. Abdomen a little narrowed before the apex, the first three segments very finely, moderately closely punctured, the following much less closely. The whole insect very finely pubescent.

♂: 7th dorsal segment with a median keel at the posterior margin; 8th with a few small granules, the posterior border rounded.

"Ind. or.," without further indication.

Widely distributed in Europe and Siberia.

Genus **ATHETA** Thoms.

- Atheta* Thoms., Skand. Col. i, 1859, p. 39, iii, 1861, p. 61; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 136; Everts, Col. Neerl. i, 1898, p. 197; Reitt., Faun. Germ. ii, 1909, p. 46; Blatchley, Col. Indiana, i, 1910, p. 352; Cameron, Trans. Ent. Soc. Lond. 1913, pp. 284-313, and 1920, pp. 361, 393; Fenyès, Gen. Ins. 173 B, 1920, p. 181; Munster, Norsk Ent. Tidskr. ii, 1925-30, pp. 5-30; Hanssen, l. c. pp. 330-335; Portevin, Encycl. Ent. A, xii, 1929, i, pp. 262-266; Scheerp., Kol. Rundsch. xv, 1929, p. 16; id., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, pp. 231-245; id., Tierwelt Mitteleur. v, 2, 1930, p. 75; Jacobs, Col. Centralbl. (Berlin) v, 1931, p. 148.
- Homalota* Er., Kaf. Mark Brand. i, 1837-39, p. 314; id., Gen. Spec. Staph. 1839-40, p. 80; Redtb., Faun. Austr. ed. i, 1849, p. 657, ed. ii, 1858, p. 124, and ed. iii, 1874, p. 155; Kraatz, Naturg. Ins. Deutschl. ii, 1856-58, p. 192 (ex parte); Fauv., Faun. Gallo-Rhén. iii, 1872, p. 653; Fowler, Col. Brit. Isl. iii, 1888, pp. 65-67; Johansen, Danmarks Rovbiller, 1914, p. 104.
- BIOLOGY.—Perris, Ann. Soc. Ent. Fr. 1853, p. 561, tab. 17, figs. 9-15; id., Hist. Ins. Pm. Marit. 1863, p. 39, tab. 1, figs. 9-15; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. 1873, p. 230; id., Ann. Soc. Linn. Lyon, xxxiii, 1886, p. 159 (note); Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 193; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 671; Mayet, Ann. Soc. Ent. Fr. (5) vi, 1876, p. 195; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 137; Nambou, Ann. Soc. Linn. Lyon, xli, 1894, p. 137, xliii, 1896, p. 135, xlv, 1898, p. 187, xlix, 1902, p. 95, and liv, 1907, p. 126; id., Échange, xxv, 1909, p. 15, xxvi, 1910, p. 17; Wickham, Psyche, vii, 1897, p. 79; Edwards, E. M. M. xxxviii, 1902, p. 181; Joy, l. c. xlv, 1909, p. 277; Wasm., D. E. Z. 1894, p. 273; Eichelb., Zool. Jahrb. Syst. xiv, 1901, p. 521; id., Zeitschr. Wiss. Ins. Biol. v, 1909, p. 280, figs. 12-17; Peyerimh., Bull. Soc. Ent. Fr. 1913, p. 172.

An extremely polymorphic genus which has been subdivided into numerous subgenera, some but feebly differentiated, others raised from time to time to generic rank. Head narrower than the thorax, more or less rounded or subquadrate, the neck rather stout, eyes varying from very small to large, the temples completely, incompletely or not at all bordered below. Maxillary fissure short, not extending backwards beyond the posterior margin of the eye. Gular sutures separated, parallel or slightly converging in front. Labrum transverse, truncate or feebly emarginate in front, the anterior angles rounded. Mandibles not prominent (except in *Halobrecta* Thoms., which has not so far been found in this Fauna), pointed, the right with a small tooth on the inner margin. Maxillæ with the outer lobe broader than the inner, ciliate at apex, the inner with pointed, incurved apex furnished with rather long curved spines, ciliate towards the base. Maxillary palpi 4-jointed, the 1st joint very small, 3rd longer than the 2nd, a little thickened towards apex, 4th subulate, variable in length, but not more than

half the length of the preceding. Mentum transverse, trapezoidal, the anterior border truncate or feebly emarginate. Tongue narrow at the base, split to about the middle into two narrow, more or less diverging lobes, shorter than the 1st joint of the labial palpi. Labial palpi distinctly 3-jointed, the 1st joint longer and stouter than the 2nd, 3rd narrower and longer than the preceding, sometimes a little thickened towards the apex. Antennæ very variable, 11-jointed. Thorax varying from subquadrate to strongly transverse, narrower than or as broad as the elytra, the pubescence more or less transverse; the pronotal epipleura visible or invisible from the sides, these with feeble or well-developed setæ. Prosternum transverse, the posterior part more or less carinate along the middle, truncate or rounded behind. Mesosternum simple, its process usually slender and pointed, extending a variable distance between the coxæ, sometimes rectangular and scarcely extending between them, these contiguous or very narrowly separated. Elytra variable, shorter, as long or longer than the thorax, with or without emargination postero-externally. Abdomen parallel, subparallel, acuminate or slightly widened behind, the first or first two, three or four segments transversely impressed at their bases. Legs moderate, the tibiæ ciliate, the middle and posterior each usually with one or two more or less distinct black setæ, in *Taxicera* Muls. et Rey, with the anterior and middle tibiæ finely denticulate externally. Tarsi 4, 5, 5; the anterior with the first three joints short and subequal, the 4th longer than the three preceding together; middle with rather short joints, the 1st sometimes a little longer than the 2nd; posterior with the 1st joint usually a little longer than the 2nd, 3rd and 4th decreasing in length, rarely (*Indatheta*, subgen. n.) with the 1st joint nearly as long as the following two together. Claws simple. The genus, which includes a very large number of species, is found throughout the world, and the larger number are found in decaying animal and vegetable matter, others on the banks of streams and marshes, in moss, and under stones.

Many attempts have been made to present a key to the various subgenera, but as knowledge of the genus increases it appears that there is no hard and fast line between some of them, and a key can only be regarded as a somewhat rough guide. For instance, in some examples of *Dimetrota* the abdomen can scarcely be said to differ in form from some specimens of *Atheta*, s. str.; the shape of the thorax and development of the thoracic and tibial setæ should, however, prevent confusion between them. *Microdota* and *Datomicra* also often present difficulty of the same kind, but in the latter subgenus the thorax is more transverse and the antennæ usually longer.

Key to the Subgenera of Atheta.

1. 6th (4th visible) abdominal segment transversely impressed at the base 2.
6th segment not impressed 3.
2. Temples not bordered below ; antennæ not thickened towards apex, the penultimate joints longer than broad PARALOCONOTA, n., p. 293.
Temples bordered below ; antennæ thickened towards apex, the penultimate joints transverse BESSOBIA Thoms., p. 313.
3. Eyes small or very small 4.
Eyes normal 7.
4. Elytra shorter than the thorax ; 7th abdominal segment in ♂ without sexual characters. Small species [p. 308.
Elytra as long or longer than the thorax OUSIPALIA Des Gozis,
5. Elytra as long as the thorax ; 7th abdominal segment not longer than the 6th. Larger species 5.
Elytra longer than the thorax. Small species OREOSTIBA Ganglb., p. 310.
6. 7th abdominal segment longer than the 6th 6.
7th abdominal segment not longer than the 6th [p. 305.
PARAMEOTICA Ganglb.,
7. Abdomen parallel or subparallel, sometimes a little widened behind AMIDOBIA Thoms., p. 409.
Abdomen more or less narrowed behind 8.
8. 1st joint of posterior tarsi almost as long as the following two together 21.
1st joint of posterior not or but little longer than the 2nd INDATHETA, n., p. 361.
9. Thorax subquadrate, not or only slightly transverse 9.
Thorax strongly transverse 10.
10. Penultimate joints of antennæ not or but slightly transverse 18.
Penultimate joints of antennæ distinctly transverse 11.
11. Temples not bordered below 14.
Temples bordered at least behind 12.
12. Small, depressed species ; abdomen densely punctured throughout ; 7th segment without tubercle in the ♂. Tarsi short 13.
Larger, less depressed species ; abdomen less punctured, especially behind, 7th segment with a tubercle in the ♂. Tarsi longer [p. 281.
HYDROSMECTA Thoms.,
13. Antennæ slender, scarcely thickened towards the apex ALOCONOTA Thoms., p. 287.
Antennæ robust, thickened towards apex [p. 298.
METAXYA Muls. et Rey,
14. 3rd joint of antennæ as long as the 2nd. 3rd joint of antennæ shorter than the 2nd LIOGLUTA Thoms., p. 364.
15. Head and thorax distinctly coriaceous, rather dull 15.
16.

- Head and thorax feebly coriaceous, shining [p. 318.
 PHILHYGRA Muls. et Rey,
 16. 4th joint of antennæ longer than [p. 304.
 broad; mesosternal process short . HYGRÆCIA Muls. et Rey,
 4th joint of antennæ transverse; meso- [p. 314.
 sternal process longer TRAUMÆCIA Muls. et Rey,
 17. Posterior segments of abdomen nearly [p. 306.
 as closely punctured as the anterior. DRALICA Muls. et Rey,
 Posterior segments of abdomen less [p. 320.
 punctured than the anterior. (See MICRODOTA Muls. et Rey,
 also 22, *Datomicra*)
 18. 3rd joint of antennæ as long or longer 19.
 than the 2nd; abdomen not widened
 behind
 3rd joint of antennæ much shorter
 than the 2nd; abdomen widened
 behind [p. 311.
 TAXICERA Muls. et Rey,
 19. Head with umbilicate punctures; STICTATHETA, n., p. 336.
 thorax with two little foveæ before
 the scutellum 20.
 Head with simple punctures; thorax
 without such foveæ
 20. Antennæ long and stout, the pen- STETHUSA Cas., p. 362.
 ultimate joints not or scarcely trans-
 verse
 Antennæ shorter, the penultimate
 joints distinctly transverse ATHETA, s. str., p. 338.
 21. Pronotal epipleura visible from the 22.
 side
 Pronotal epipleura not visible from
 the side 24.
 22. 3rd joint of antennæ as long as the 23.
 2nd; larger species, with well
 developed thoracic and tibial setæ .
 3rd joint of antennæ distinctly shorter
 than 2nd; small species, with feeble
 thoracic and tibial setæ [p. 384.
 DATOMICRA Muls. et Rey,
 23. Abdomen closely punctured and [p. 388.
 pubescent to the apex; antennæ CHÆTIDA Muls. et Rey,
 long and stout.
 Abdomen sparingly punctured on the
 posterior segments; antennæ fili-
 form or with only moderately
 transverse penultimate joints [p. 369.
 DIMETROTA Muls. et Rey,
 24. 3rd joint of antennæ longer than the [p. 389.
 2nd; thoracic setæ feeble COPROTHASSA Thoms.,
 3rd joint of antennæ not longer than
 the 2nd; thoracic setæ more
 developed. ACROTONA Thoms., p. 392.

Subgenus *HYDROSMECTA* Thoms.

Hydrosmecta Thoms., Skand. Col. iii, 1861, p. 13; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 234; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 230; Reitt., Faun. Germ. ii. 1909, p. 65; Johansen, Danmarks Rovbiller, 1914, p. 225; Fenyès, Gen. Insect. 173 B, 1920, p. 236; Portevin, Encycl. Ent. A, xii, 1929, i, p. 267; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i. cxxxviii, 1929, p. 232.
Thinacia Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 234.

Small, somewhat depressed parallel species, densely and finely punctured and pubescent all over or densely coriaceous. Head rather large, subquadrate, temples not bordered below. Antennæ slender, the penultimate joints not or only very slightly transverse. Thorax subquadrate, not or but slightly transverse, retracted behind, the pronotal epipleura visible from the side. Elytra not emarginate postero-externally. Mesosternal process acute, the coxæ contiguous. Tarsi short. The habitat of this subgenus is on the banks of rivers, streams, and marshes.

Key to the Species.

- | | |
|---------------------------------------------------------------------------------------------------|-------------------------------------|
| 1. Penultimate joints of the antennæ much longer than broad; abdomen sericeous .. | 2. |
| Penultimate joints of antennæ not or only slightly longer than broad; abdomen not sericeous | 3. |
| 2. Elytra yellow; thorax distinctly transverse; antennæ blackish | [p. 282. |
| Elytra smoky-brown; thorax very slightly transverse; antennæ reddish-yellow | <i>siwalikensis</i> , sp. n., |
| 3. Elytra smoky-brown | <i>tenuis</i> , sp. n., p. 283 |
| Elytra yellow, brownish-yellow, or reddish-yellow | 4. |
| 4. Larger (2.3 mm.) and more robust | 5. |
| Smaller (1.5 mm.) and narrower | <i>armata</i> , sp. n., p. 286. |
| 5. Densely and strongly coriaceous; elytra reddish-yellow | <i>subtenella</i> , sp. n., p. 285. |
| Densely and finely punctured, normally coriaceous | <i>coriacea</i> sp. n., p. 285. |
| 6. Thorax pitchy | 6. |
| Thorax reddish-yellow | 7. [p. 284. |
| 7. Elytra yellow; broader and more coriaceous | <i>subgracilis</i> , sp. n., |
| Elytra brownish-yellow; narrower and less coriaceous | <i>gracilis</i> , sp. n., p. 284. |
| | [p. 283. |
| | <i>kashmirica</i> , sp. n., |

1767. *Atheta (Hydrosmeeta) siwalikensis*, sp. n.

Parallel, greasy lustrous, pitchy-black, the elytra yellow. Antennæ brown, the first two joints yellow. Legs yellow. Length 2 mm.

Very like *fragilicornis* Kr., but with the antennæ a little longer, the elytra a little shorter and of brighter colour. Head subquadrate, nearly as broad as the thorax, the eyes large, as long as the post-ocular region, the disc superficially impressed, very finely coriaceous, extremely finely, closely and obsoletely punctured. Antennæ long and slender, the 2nd and 3rd joints subequal, 4th to 10th all much longer than broad, the 5th to 10th subequal, the 11th a little shorter than the two preceding together. Thorax slightly transverse, the sides retracted behind, along the middle broadly and slightly impressed for the posterior two-thirds, the sculpture as on the head. Elytra a little broader and a little longer than the thorax (3 : 2.5), scarcely longer than broad, extremely finely

and very closely punctured. Abdomen parallel, extremely finely and very closely punctured and pubescent, sericeous. The whole insect covered with a very fine, short, close pubescence.

♂: 6th ventral segment a little produced and broadly rounded. Siwaliks : Lachiwala. Dehra Dun.

1768. *Atheta (Hydrosmeeta) tenuis*, sp. n.

Depressed, parallel, greasy lustrous; head and abdomen black, thorax and elytra pitchy. Antennæ reddish-yellow. Legs yellow. Length 1.5 mm.

In build and colour very similar to *delicatula* Shp., but with the antennæ a little longer and more slender, the abdomen much more finely and densely punctured and pubescent, sericeous. Head nearly as broad as the thorax, subquadrate, the eyes shorter than the post-ocular region, the disc lightly impressed in the middle, extremely finely, closely and obsoletely punctured, finely coriaceous. Antennæ long, the 3rd joint distinctly shorter than the 2nd, 4th to 10th all longer than broad, the 11th a little longer than the 10th. Thorax as long as broad, the sides nearly straight, retracted behind, narrowly impressed along the middle, the sculpture as on the head. Elytra about a third longer than the thorax, a little longer than broad, extremely finely and closely punctured. Abdomen nearly parallel, extremely finely, closely punctured, sericeous. The whole insect very finely and closely pubescent.

Dehra Dun. Mussooree : Arni Gad ; Dhobi Ghat. In stream shingle.

1769. *Atheta (Hydrosmeeta) kashmirica*, sp. n.

Depressed, greasy lustrous, head and abdomen black, the base and apex of the latter brownish-yellow, thorax brown, elytra yellowish-brown. Antennæ reddish-yellow. Legs yellow. Length 1.5 mm.

In build resembling *delicatula* Shp., but with shorter, lighter antennæ. Differs from *tenuis* in the shorter antennæ, the penultimate joints scarcely longer than broad, shorter thorax, and the much less closely punctured, non-sericeous abdomen. Head subquadrate, nearly as broad as the thorax, the eyes distinctly shorter than the post-ocular region, the vertex superficially impressed, finely coriaceous and scarcely perceptibly punctured. Antennæ with the 3rd joint distinctly shorter than the 2nd, 4th as long as broad, 5th to 7th slightly, the 8th to 10th scarcely longer than broad, 11th as long as the 9th and 10th together. Thorax slightly transverse, broadly impressed along the middle, very finely coriaceous, extremely finely, rather closely punctured. Elytra about a fourth longer than the thorax, a little broader than long,

extremely finely, closely punctured. Abdomen very finely, rather closely punctured and pubescent, not sericeous.

Kashmir : Gulmarg, alt. 8000-9000 feet.

1770. *Atheta* (*Hydrosmeeta*) *gracilis*, sp. n.

Parallel, depressed, moderately shining, the head and abdomen black, elytra yellow. Antennæ blackish, the first two or three joints yellow. Legs yellow. Length 1.75 mm.

In build much resembling *tenella* Mannerh., but with differently coloured and shorter elytra, the head much less strongly punctured, the antennæ thinner but similarly constructed. Head subquadrate, nearly as broad as the thorax, the eyes a little shorter than the post-ocular region, the vertex with a small impression, extremely finely, rather closely punctured, finely coriaceous, the punctures confused with the ground-sculpture. Antennæ with the 3rd joint shorter than the 2nd, 4th to 10th all slightly longer than broad, and differing but little amongst themselves, the 11th nearly as long as the two preceding together. Thorax transverse (2.5 : 2), broadly and superficially impressed along the middle, the sculpture very similar to that of the head. Elytra a little broader and nearly a half longer than the thorax, a little longer than broad, extremely finely and very closely punctured. Abdomen parallel, very finely, rather closely punctured and pubescent, more sparingly behind, not sericeous. The whole insect finely and closely pubescent.

♂ : 6th ventral segment a little produced and broadly rounded.

Dehra Dun : Song River ; Saiya.

1771. *Atheta* (*Hydrosmeeta*) *subgracilis*, sp. n.

Parallel, depressed, moderately shining, the head pitchy-brown, thorax and elytra brownish-yellow, abdomen black, with the base and apex yellowish. Antennæ reddish-yellow. Legs yellow. Length 1.3 to 1.5 mm.

Smaller and more brightly coloured than *gracilis*, the puncturation of the head and thorax less evident, the antennæ a little shorter and stouter. Head nearly as broad as the thorax, subquadrate, the eyes shorter than the post-ocular region, the vertex very slightly impressed, extremely finely, closely and obsoletely punctured, finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th as long as broad, 5th and 6th as long as broad, stouter than the 4th, 7th to 10th very slightly transverse, 11th as long as the preceding two together. Thorax very slightly transverse, very slightly impressed behind in the middle in some examples, the sculpture as on the head. Elytra a little broader and about a third

longer than the thorax, extremely finely and closely punctured. Abdomen very finely and rather closely punctured, more sparingly behind, not sericeous.

♂ : 6th ventral segment produced and rounded behind.

Mussooree : Dhobi Ghat ; Mossy Falls.

1772. *Atheta (Hydrosmeeta) subtenella*, sp. n.

Parallel, depressed, greasy lustrous, pitchy-black, the abdomen more shining. Antennæ blackish, the first two joints yellowish. Legs yellow. Length 1.5 mm.

Much smaller and narrower than *thinobioides* Kr., very similar in build, colour, and lustre, the antennæ similarly constructed but thinner, the abdomen less closely punctured. Head subquadrate, nearly as broad as the thorax, the eye almost as long as the post-ocular region, the disc often with a small impression, distinctly coriaceous, very finely, rather closely punctured, the punctures confused with the ground-sculpture. Antennæ with the 3rd joint a little shorter than the 2nd, the following all slightly longer than broad, the 5th to 10th scarcely differing amongst themselves, the 11th a little longer than the 10th. Thorax slightly transverse, narrowed behind, along the middle broadly and superficially impressed, before the scutellum with a small transverse impression, the sculpture as on the head. Elytra a little broader and about a third longer than the thorax, extremely finely and very closely punctured. Abdomen parallel, very finely, rather closely punctured and pubescent, not sericeous. The whole insect covered with a fine, short, close pubescence.

♂ : 6th ventral segment a little produced and broadly rounded.

Siwaliks : Lachiwala.

1773. *Atheta (Hydrosmeeta) coriacea*, sp. n.

Black, greasy lustrous, elytra reddish-yellow. Antennæ black, the 1st joint pitchy. Legs reddish-yellow. Length 1.75 mm.

Head large, nearly as wide as the thorax, subquadrate, densely and strongly coriaceous, with scarcely visible puncturation. Antennæ with the 3rd joint a little shorter than the 2nd, 4th to 6th a little longer than broad, 7th as long as broad, 8th to 10th slightly transverse, 11th as long as the 9th and 10th together. Thorax slightly transverse, a little narrowed behind, the sculpture as on the head. Elytra a little longer and broader than the thorax, extremely finely and closely punctured. Abdomen a little widened behind, strongly coriaceous, very finely and closely punctured throughout, the puncturation confused with the ground-sculpture. Pubescence

fine and close on the fore-parts, longer and coarser on the abdomen.

♂: 8th dorsal segment with four very small teeth on the posterior margin, the median ones further from each other than from the lateral.

Bihar: Pusa.

This species, though peculiar in its sculpture, appears to belong to this subgenus, the temples being entirely immarginate, the mesosternal process acute and produced between the coxæ, and the tarsi short.

1774. *Atheta (Hydrosmeeta) armata*, sp. n.

Depressed, parallel, greasy lustrous, head and abdomen black, thorax and elytra pitchy. Antennæ blackish, the first two joints yellowish. Legs yellow. Length 2.2 mm.

In colour and build much like *eximia* Shp., but with shorter, darker antennæ and more closely punctured and pubescent

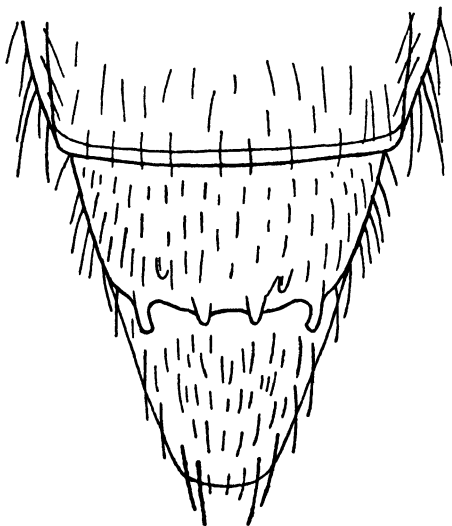


Fig. 87.—*Atheta (Hydrosmeeta) armata*, ♂, apex of abdomen.

abdomen. Head subquadrate, nearly as broad as the thorax, the eyes large, as long as the post-ocular region, the disc slightly and broadly impressed, extremely finely and closely punctured, finely coriaceous. Antennæ with the 2nd and 3rd joints subequal, 4th to 10th all longer than broad, gradually decreasing in length, the penultimate only slightly so, the 11th a little longer than the 10th. Thorax slightly transverse, longer than

in *eximia*, narrowed behind, the posterior angles obtuse, broadly impressed along the middle in the ♂, the sculpture as on the head. Elytra broader and a little longer than the thorax (3:2.5), extremely finely and closely punctured. Abdomen parallel, very finely and closely punctured and pubescent, but not sericeous. The whole insect covered with a short, very fine close pubescence.

♂: 8th dorsal segment on each side with a little spine, near the middle with a pair of small teeth.

Mussooree: Arni Gad. Siwaliks.

Subgenus *ALOCONOTA* Thoms.

Aloconota Thoms., Skand. Col. iii, 1861, p. 7; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 234; Reitt., Faun. Germ. ii, 1909, pp. 51, 52; Johansen, Danmarks Rovbiller, 1914, p. 220; Fenyès, Gen. Ins. 173 B, 1920, p. 176; Portevin, Encycl. Ent. A, xii, 1929, i, p. 268; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 234; Munster, Norsk Ent. Tidsskr. iii, 1932, pp. 9-11.

Terasota Cas., Trans. Acad. Sci. St. Louis, xvi, 1906, p. 337.

Taphrodota Cas., l. c. p. 338.

Subparallel species. Head with temples not bordered below. Antennæ with the 2nd and 3rd joints subequal. Thorax slightly transverse, narrowed behind, the sides without setæ, the pronotal epipleura visible laterally. Mesosternal process more or less pointed, the coxæ contiguous or but narrowly separated. Elytra not emarginate postero-externally. Tibiæ without setæ, the 1st joint of the posterior tarsi moderate, but shorter than the two following together. Abdomen with the first three (visible) segments transversely impressed, the 7th with a tubercle in the ♂. Except for this latter character the genus is very similar to *Glossola*. The species are all found in the vicinity of water.

Key to the Species †.

1. Head, thorax, and elytra with distinct greenish-blue reflex *subcyanea*, sp. n., p. 289.
Black species; the elytra at most with very slight metallic reflex or reddish-brown
2. Elytra closely covered with small granules; penultimate joints of antennæ transverse *beesoni*, sp. n., p. 291.
Elytra very finely punctured
3. Antennæ and elytra reddish-brown *simlaensis*, sp. n., p. 290.
Antennæ and elytra black, the latter sometimes with slight metallic reflex .. 4.

† *A. peguana* Bernh. is omitted as it cannot be retained in the subgenus.

4. Legs pitchy-black 5.
 Legs reddish or reddish-yellow 6.
5. Antennæ longer and more slender, the penultimate joints about twice as long as broad *riparia*, sp. n., p. 288.
 Antennæ shorter and stouter, the penultimate joints only slightly longer than broad; elytra with very slight metallic reflex *iguensis* Cam., p. 288.
6. Larger (4.5 mm.) and more robust; antennæ a little thickened towards apex *fluminea*, sp. n., p. 289.
 Smaller (3.5 mm.) and narrower; antennæ scarcely thickened towards apex. *morosa*, sp. n., p. 290.

1775. *Atheta (Aloconota) riparia*, sp. n.

Entirely black, moderately shining. Antennæ black. Legs pitchy-black. Length 3 mm.

In size, build, and antennal structure very like *gracilicornis* Er. (*Hydrosmecta*), but differently coloured, the eyes smaller and the abdomen much less closely punctured and pubescent. Head transversely suborbicular, nearly as broad as the thorax, the eyes moderate, the disc with distinct longitudinal impression in the middle, finely coriaceous, extremely finely, rather sparingly punctured. Antennæ long and slender, the 3rd joint distinctly longer than the 2nd, 4th and following all much longer than broad, gradually decreasing in length, the 11th a little longer than the 10th. Thorax slightly transverse, narrowed behind, feebly, broadly impressed behind in the middle, the sculpture as on the head. Elytra a little broader and a fourth longer than the thorax, broader than long, very finely, rather closely punctured. Abdomen subparallel, very finely, not very closely punctured, more sparingly behind. The whole insect finely pubescent.

♂: unknown.

Simla Hills: Gahan, alt. 7000 feet.

1776. *Atheta (Aloconota) iguensis*.

Atheta (Aloconota) iguensis Cam., Mem. Connecticut Acad. Arts and Sci. x, 1934, p. 19.

Entirely black, the elytra with very slight metallic reflex, the fore-parts moderately, the abdomen more shining. Antennæ, palpi, and legs black, the tarsi brownish-yellow. Length 2.8 mm.

Very similar to *riparia*, but with the antennæ distinctly stouter and a little shorter, the 9th and 10th joints of the antennæ only slightly longer than broad, the head and thorax a little narrower, the 8th dorsal segment truncate; the sculpture scarcely differing.

Head transverse, suborbicular, nearly as broad as the thorax, the vertex with a fine short sulcus, extremely finely and very sparingly punctured, strongly coriaceous. Antennæ long, the 3rd joint longer than the 2nd, 4th to 10th all longer than broad, gradually decreasing in length, the 9th and 10th only a little longer than broad, together as long as the 11th. Thorax slightly transverse, the sides rounded in front, sinuate and retracted behind, the posterior angles obtuse, the base on each side obliquely truncate as in *insecta* Thoms., along the middle in the posterior half superficially impressed, very finely, much less sparingly punctured than the head, the ground-sculpture similar. Elytra a little broader and half as long again as the thorax, the puncturation similar but much closer, the ground-sculpture similar. Abdomen very finely, moderately closely punctured on the anterior segments, gradually more sparingly behind, less strongly coriaceous than the fore-parts. 8th dorsal segment very slightly arcuately emarginate. The pubescence throughout fine and moderately close. Tibiæ without long setæ.

A single example, which appears to be a ♀ *Aloconota* from the general facies.

Indian Tibet : Igu, alt. 11,210 feet. In stream shingle. British Museum.

1777. *Atheta (Aloconota) fluminea*, sp. n.

Black ; head, thorax, and abdomen shining, elytra greasy lustrous. Antennæ black, the 1st joint pitchy. Legs brownish-red, the tarsi yellow. Length 4.5 mm.

Differs from *riparia* in the larger size, much shorter and stouter antennæ, lighter legs, larger eyes, the head without impression, more finely punctured elytra, and more closely punctured abdomen. Antennæ thickened towards the apex, 2nd and 3rd joints subequal, 4th to 9th all longer than broad, gradually decreasing in length, the 10th as long as broad, 11th shorter than the preceding two together. Abdomen very finely, rather closely punctured except on the last two segments.

♂ : 7th dorsal segment with a large tubercle near the posterior margin in the middle ; 8th with a pair of blunt teeth at the middle of the posterior margin.

Simla Hills : Gahan. Chakrata district : Binal Gad ; Sainj Khud.

1778. *Atheta (Aloconota) subcyanea*, sp. n.

Moderately shining ; head and thorax greenish-blue, abdomen black, elytra pitchy with greenish-blue reflex. Antennæ black. Legs reddish, tarsi yellow. Length 5 mm.

Very like *fluminea* in build, but a little larger and of different colour; the antennæ are very similarly constructed, but with the 10th joint a little longer than broad and the 11th as long as the preceding two together; the puncturation in the two species scarcely differs.

♂: unknown.

Chakrata district: Sainj Khud.

1779. *Atheta (Aloconota) morosa*, sp. n.

Head, thorax, and abdomen rather shining, black; elytra pitchy-black, duller. Antennæ black. Legs reddish-yellow. Length 3.5 mm.

Very similar in build to *insecta* Thoms., but a little smaller and of darker colour, the antennæ a little longer and thinner, thorax less, elytra more finely punctured, abdomen less closely punctured. All the joints of the antennæ longer than broad,



Fig. 88.—*Atheta (Aloconota) morosa*, ♂, apex of abdomen.

the 9th and 10th only slightly, the 11th as long as these together.

♂: 7th dorsal segment with a large tubercle in the middle near the posterior margin; 8th with two contiguous keels in the middle which project over the posterior margin as two short blunt tubercles.

Kashmir: Gulmarg, alt. 8000–10,000 feet.

1780. *Atheta (Aloconota) simlaensis*, sp. n.

Greasy lustrous, pitchy black, the elytra light reddish-brown. Antennæ reddish. Legs reddish-yellow. Length 3.5–4 mm.

Head suborbicular, narrower than the thorax, the eyes small, disc with a small fovea, coriaceous, extremely finely punctured, the puncturation confused with the ground-

sculpture. Antennæ distinctly thickened towards the apex, the 2nd and 3rd joints of equal length, 4th and 5th a little longer than broad, 6th and 7th about as long as broad, 8th to 10th distinctly transverse, 11th as long as the preceding two together. Thorax slightly transverse, narrowed behind, the posterior angles obtuse, before the scutellum with a little fovea and in the ♂ lightly longitudinally impressed along the middle behind; ground-sculpture as on the head, very finely, moderately closely and much more distinctly punctured than the head. Elytra broader and about a fourth longer than the thorax, a little broader than long, very finely, rather closely punctured, finely coriaceous. Abdomen subparallel, very finely, moderately closely punctured, more sparingly on the last two segments. The whole insect finely pubescent.

♂: 7th dorsal segment with a small elongate tubercle near the posterior margin in the middle; 8th truncate, sometimes with traces of four minute teeth.

Simla Hills: Gahan. Chakrata district: Konain.

1781. *Atheta* (*Aloconota*) *beesoni*, sp. n.

Head, thorax, and abdomen black, rather shining, elytra less shining, dark brown. Antennæ black, the 1st joint and the legs reddish-yellow. Length 4 mm.

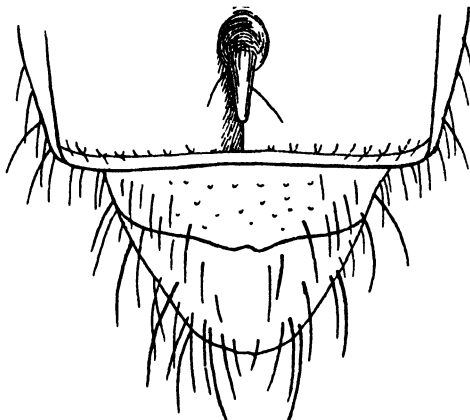


Fig. 89.—*Atheta* (*Aloconota*) *beesoni*, ♂, apex of abdomen.

Head suborbicular, narrower than the thorax, eyes moderate, coriaceous, very finely, sparingly, asperately punctured. Antennæ thickened towards apex, 2nd and 3rd joints of equal length, 4th and 5th slightly longer than broad, 6th and 7th about as long as broad, 8th to 10th distinctly transverse, 11th shorter than the preceding two together. Thorax

a fourth broader than long, narrowed behind, the posterior angles obtuse, before the scutellum with a minute fovea, the ground-sculpture and puncturation very similar to that of the head. Elytra a little broader and about a fourth longer than the thorax, closely covered with small granules in the ♂ and with fine ground-sculpture, in the ♀ with much finer granules. Abdomen subparallel, very finely, not very closely punctured, more sparingly behind. The whole insect finely pubescent.

♂: 7th dorsal segment with a large elongate median tubercle occupying the posterior half; 8th rounded behind, with a pair of small blunt teeth at the middle, sometimes with the tubercle much smaller and the teeth obsolete.

Chakrata district: Deoban, alt. 9330 feet. Patra Khud, alt. 8000 feet. Simla Hills.

1782. *Atheta* (*Aloconota*) *peguana*.

Atheta (*Aloconota*) *peguana* Bernh., Col. Rundsch. iv, 1915, p. 30.

In build very like *Atheta languida*, and very easily recognized by the ♂ sexual characters.

Reddish-brown, somewhat shining, the head and abdomen darker, the base of the antennæ brownish-yellow, the legs lighter. Head long and narrow, much narrower than the thorax, longer than broad, in the middle with a small fovea, very finely and sparingly punctured, very finely coriaceous, the sharply and completely bordered temples† much longer than the eyes. Antennæ slightly thickened towards the apex, the 3rd joint as long as the 2nd, 4th longer than broad, the following gradually becoming shorter and broader, the penultimate slightly transverse, the 11th as long as the 9th and 10th together. Thorax much narrower than the elytra, somewhat longer than broad, the sides straight, nearly parallel, and only rounded and narrowed in front, very finely and sparingly punctured, extremely finely coriaceous, before the scutellum with a small fovea. The epipleura entirely visible from the side. Elytra longer than the thorax, slightly widened behind, moderately finely and rather closely punctured. Abdomen parallel, at the bases of the first three visible segments transversely impressed, very finely and sparingly punctured, very shining.

Length nearly 3 mm.

In the ♂ the elytra on each side of the suture behind the scutellum with a long sharp keel extending backwards to the

† In the subgenus *Aloconota* the temples are not bordered, so the species cannot be retained therein. The ♂ characters are very different from those found in *Aloconota*; perhaps it is not an *Atheta* at all.

middle; 3rd and 4th tergites each with a small tubercle, the 7th with a strong keel, prominent and pointed behind, the 8th truncate, distinctly crenulate.

Burma: Pegu (*Bang-Haas*). One specimen from Waagen's Collection (ex *Bernhauer*).

PARALOCONOTA, subgen. n.

Facies of *Aloconota*, but with the 4th visible abdominal segment transversely impressed at the base. Temples not margined below. Mesosternal process short, acute, extending about half the length of the coxæ, its apex free, the metasternum not produced between the coxæ, these narrowly separated. The pubescence is rather long, moderately close as in *Aloconota*, and the sculpture very similar. The 7th abdominal segment without tubercle in the ♂. The species which I have collected are found in the long moss attached to boulders in swiftly running mountain streams. Genotype, *muscicola*.

Key to the Species.

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------|
| 1. Larger (4.5–5 mm.) and more robust species; the antennæ very long and slender, extending beyond the apical margin of the elytra..... | 2. | |
| Smaller (3.3–4 mm.) species; the antennæ shorter | 3. | |
| 2. Head as broad as the thorax, the latter extremely finely, rather sparingly punctured..... | | <i>concurrans</i> , sp. n., p. 296. |
| Head narrower than the thorax, the latter finely and closely punctured..... | | <i>jaloriensis</i> , sp. n., p. 297. |
| 3. Thorax finely but distinctly punctured.. | | <i>almorensis</i> , sp. n., p. 295. |
| Thorax extremely finely, indistinctly punctured | 4. | |
| 4. Thorax with distinct coriaceous ground-sculpture | 5. | |
| Thorax with scarcely perceptible ground-sculpture | 6. | |
| 5. Head with small, flat, superficial punctures. Head with extremely fine, simple punctures | | <i>muscicola</i> , sp. n., p. 293. |
| | | <i>dissociata</i> , sp. n., p. 295. |
| 6. Head superficially but distinctly punctured; antennæ more slender, with lighter base | | <i>hazarana</i> , sp. n., p. 295. |
| Head very obsoletely punctured; antennæ stouter, with dark base | | <i>naddiana</i> , sp. n., p. 296. |

1783. *Atheta* (*Paraloconota*) *muscicola*, sp. n. (Plate II, fig. 1.)

Moderately shining, black. Antennæ pitchy, with the first three or four joints brownish-yellow. Legs brownish-yellow, the tarsi reddish-yellow. Length 3.5–4 mm.

Var. *cyanescens*. Head and thorax with distinct bluish-green reflex.

In build somewhat like *currax* Kr., but with less parallel abdomen. Head transversely subquadrate, nearly as wide as the thorax, the eyes moderate, shorter than the temples, the disc with a short median groove, broader in the ♂, finely coriaceous, finely and superficially punctured. Antennæ long and slender, the 3rd joint longer than the 2nd, the following all longer than broad, gradually decreasing in length, the 11th a little longer than the 10th. Thorax a third broader than long, the sides rounded in front, retracted and distinctly sinuate behind, the posterior angles obtuse, before the scutellum with a small impression in the ♀, a broader and longer one in the ♂, extremely finely and sparingly punctured, finely

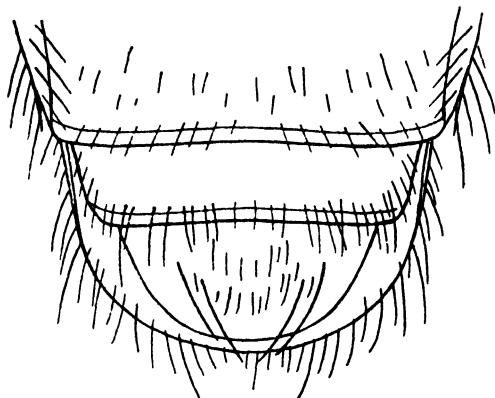


Fig. 90.—*Atheta (Paraloconota) muscicola*, ♂, apex of abdomen.

coriaceous. Elytra broader and longer than the thorax (5:3.3), extremely finely, rather closely punctured, finely coriaceous like the thorax. Abdomen narrowed before the apex, the first three visible segments extremely finely, sparingly punctured, the following yet more sparingly, finely coriaceous. The whole insect finely pubescent.

♂: 8th dorsal segment feebly, broadly emarginate: 6th ventral segment distinctly produced, not at all narrowed, the posterior margin broadly and feebly rounded and narrowly membranous; by this formation the apex of the abdomen has the appearance of a tube obliquely truncate from above backwards and downwards.

Kashmir: Gulmarg, alt. 8000 feet; Khelanmarg, alt. 10,000 feet. In stream moss on boulders. Punjab: Kulu, Naggar, alt. 5000 feet (*H. G. Champion*).

1784. *Atheta* (*Paraloconota*) *hazarana*, sp. n.

Moderately shining, black, elytra pitchy-black. Antennæ black, the first three or four joints yellowish. Legs brownish-yellow. Length 3.3 mm.

More robust than *musvicola*, thorax more convex and more transverse, the sides less retracted behind, without impression, the puncturation yet finer, the ground-sculpture weaker, the abdomen more punctured. Head narrower than the thorax, somewhat subquadrate, transverse, the disc impressed, the puncturation moderately close, small, flat, and superficial, the ground-sculpture distinct. Antennæ slender as in *musvicola*. Thorax transverse (5 : 4), the sides retracted and a little sinuate behind, the posterior angles obtuse, the disc not impressed, extremely finely, scarcely perceptibly punctured, the ground-sculpture feeble. Elytra broader and longer (5 : 4) than the thorax, very finely, moderately closely punctured, finely coriaceous. Abdomen finely, rather sparingly punctured, more sparingly behind.

♂: 8th dorsal segment truncate; 6th ventral segment a little produced, not narrowed, broadly rounded behind.

N.W. Frontier: Upper Kagan Valley, alt. 8000 feet, 11. vi. 27.

1785. *Atheta* (*Paraloconota*) *almorensis*, sp. n.

More robust than *musvicola*, the head and thorax broader, head more deeply impressed on the disc, the sculpture scarcely differing. Antennæ with the first two joints yellowish-brown, the penultimate slightly longer. Thorax a fourth broader than long, with a rather broad superficial impression behind, deeper in the ♂, the puncturation very fine, rather close, much closer than in *musvicola*. Elytra broader and a half longer than the thorax, extremely finely, rather closely punctured, finely coriaceous. Abdomen extremely finely but more closely punctured than in *musvicola*. Length 3.3–3.75 mm.

♂: 8th dorsal segment truncate; 6th ventral segment more produced than in *musvicola*, distinctly narrowed and broadly rounded behind.

W. Almora: Sunderdhunga, alt. 8000–12,000 feet (*H. G. Champion*).

1786. *Atheta* (*Paraloconota*) *dissociata*, sp. n.

Intermediate between *musvicola* and *almorensis*. Head formed as in *musvicola*, the disc with a small impression,

extremely finely and sparingly punctured, the punctures finer and more obsolete than in that species, the ground-sculpture distinct. Antennæ as in *almorensis*, the basal joints dark. Thorax slightly transverse (4.5 : 4), superficially impressed along the middle, the sides sinuately retracted behind, extremely finely, sparingly punctured as in *musciicola*, distinctly coriaceous. Elytra broader and a fourth longer than the thorax, very finely, moderately closely punctured, finely coriaceous. Abdomen finely, moderately closely punctured on the anterior segments, more sparingly behind. Legs pitchy, the tarsi lighter. Length 3-3.5 mm.

♂: 8th dorsal segment broadly, feebly, arcuately emarginate; 6th ventral segment a little produced, gradually and slightly narrowed and rounded behind.

Kumaun : Laptel, alt. 15,000 feet ; Shelshel, alt. 15,750 feet (*H. G. Champion*).

1787. *Atheta* (*Paraloconota*) *naddiana*, sp. n.

Moderately shining, black, the elytra pitchy-black. Antennæ black. Legs pitchy, the tarsi lighter. Length 4 mm.

In build very similar to *dissociata*, but larger and more robust, the head more orbicular, antennæ much stouter, elytra not so black. Head suborbicular, narrower than the thorax, the disc without impression, extremely finely, sparingly punctured, much less coriaceous than in *dissociata*. Antennæ with all the joints longer than broad, the penultimate only slightly so, but much stouter than in the other species of the subgenus. Thorax slightly transverse (5.5 : 5), the sides sinuately retracted behind, before the scutellum with a small fovea, extremely finely, moderately closely punctured, feebly coriaceous. Elytra broader and longer (6.5 : 5) than the thorax, extremely finely, rather closely punctured, very finely coriaceous. Abdomen a little narrowed before apex, very finely, moderately closely punctured on the anterior segments, more sparingly behind.

♂: unknown.

N.W. Frontier : Upper Kagan Valley, Naddi, Alt. 8000 feet, 11. vi. 27.

1788. *Atheta* (*Paraloconota*) *concurrans*, sp. n.

A large (5 mm.) robust species. Head as broad as the thorax, the disc deeply impressed, with a fine, superficial, flat puncturation and fine ground-sculpture. Antennæ long and slender, extending beyond the apical margin of the elytra, of a brownish-yellow colour, a little infusate towards the

apex, the joints a good deal longer than broad and narrowed towards their bases. Thorax a third broader than long, the sides retracted and a little sinuate behind, without impression, the puncturation extremely fine and rather sparing, the ground-sculpture less distinct than on the head. Elytra broader and a third longer than the thorax, the puncturation extremely fine, moderately close, finely coriaceous. Abdomen very slightly narrowed behind, finely, rather closely punctured on the first four visible segments; more sparingly on the last two. Pubescence throughout fine, moderately close and rather long.

♂: 8th dorsal segment broadly truncate; 6th ventral segment scarcely produced, not at all narrowed, broadly rounded.

N.W. Frontier: Hazara, Upper Kagan Valley, alt. 8000 feet, 28. v. 27. Unique. British Museum.

1789. *Atheta* (*Paraloconota*) *jaloriensis*, sp. n.

Moderately shining, black. Antennæ black, the first two joints yellowish-brown. Legs brown. Length 4.5 mm.

Somewhat resembling *currax* Kr. in build, but more robust and with longer antennæ, all the joints distinctly longer. Head transverse, subquadrate, nearly as broad as the thorax, the eyes moderate, the disc with a long and broad impression, puncturation moderately fine, deep and distinct, rather close, ground-sculpture distinct, coriaceous. Antennæ long and slender, all the joints much longer than broad, narrowed towards their bases, decreasing in length, the 11th a little longer than the 10th. Thorax transverse (7:5.5), the sides rounded in front, sinuate and strongly retracted behind, the posterior angles obtuse, along the whole of the middle broadly and superficially impressed, the puncturation very like that of the head but finer and closer, the ground-sculpture similar. Elytra broader and longer (7:5.5) than the thorax, the sculpture finer. Abdomen a little narrowed behind, rather finely and sparingly punctured, especially behind. The whole insect with a fine, rather long, moderately close pubescence.

♂: 8th dorsal segment feebly rounded; 6th ventral segment distinctly produced, slightly narrowed, the posterior border truncate.

♀: unknown.

Punjab: Jalori Pass, alt. 10,800 feet. Bhabbu Pass, alt. 9000 feet (*H. G. Champion*).

Subgenus *METAXYA* Muls. et Rey.

Metaxya Muls. et Rey, Nat. Hist. Col. Fr. Brév. Aléoch. iv, 1875, p. 147; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 222; Bernh., W. Z. B. lvii, 1907, p. 397; Reitt., Faun. Germ. ii, 1909, p. 63; Johansen, Danmarks Rovbiller, 1914, p. 202; Portevin, Encycl. Ent. A, xii, 1929, i, p. 270; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 234, and cxi, 1931, p. 428.
Phrygogora Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 625; Portevin, Encycl. Ent. A, xii, 1929, i, p. 271.

Subdepressed, subparallel species. Temples bordered below, at least behind. Antennæ usually slender, not or but slightly thickened towards apex, the 3rd joint as long as or a little shorter than the 2nd. Thorax as long as broad or moderately transverse, the pronotal epipleura visible from the sides, which are without distinct setæ. Mesosternal process acute, not extending beyond the middle of the coxæ, these nearly contiguous. Elytra as long or longer than the thorax, not or scarcely emarginate postero-externally. Tibiæ without or with only feeble setæ, the posterior tarsi with the first two joints rather short and subequal. Abdomen parallel, the first three visible segments transversely impressed, rather closely punctured on the anterior segments, usually less closely on the posterior ones. The species are found in the vicinity of water. They are usually larger and more robust than *Hydrosmeeta*, with longer posterior tarsi.

Key to the Species.

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 1. Penultimate joints of antennæ distinctly longer than broad..... | 2. |
| Penultimate joints of antennæ about as long as broad or transverse..... | 4. |
| 2. Thorax closely, finely and distinctly punctured..... | <i>connexa</i> , sp. n., p. 299. |
| Thorax closely, very finely, somewhat indistinctly punctured..... | 3. |
| 3. Thorax reddish-brown; elytra brownish-yellow..... | <i>connectens</i> , sp. n., p. 299. |
| Thorax black; elytra smoky-brown... | <i>chatterjeei</i> , sp. n., p. 300. |
| 4. Elytra brownish-yellow..... | 5. |
| Elytra blackish or reddish-brown..... | 9. |
| 5. Larger (3.2 mm.); the posterior segments of the abdomen obviously less closely punctured and pubescent than the anterior..... | 6. |
| Smaller (2.5-2.75 mm.); abdomen uniformly punctured and pubescent.. | 7. |
| 6. Penultimate joints of antennæ slightly transverse; elytra and abdomen much more sparingly punctured; ground-sculpture of head and thorax scarcely visible..... | <i>incerta</i> , sp. n., p. 301. |
| Penultimate joints of antennæ as long as broad; elytra and abdomen much more closely punctured; ground-sculpture of head and thorax distinct. | <i>assamensis</i> , sp. n., p. 302. |

7. Elytra moderately finely, closely punctured..... *heterogyna*, sp. n., p. 304.
Elytra extremely finely, closely punctured.....
8. Larger (2.75 mm.) and broader; penultimate joints of antennæ as long as broad; thorax very obsoletely punctured [p. 392.
thinæcioides, sp. n.,
Smaller (2.5 mm.) and narrower; penultimate joints of antennæ slightly transverse; thorax very finely, closely and distinctly punctured..... [p. 302.
shugnuensis, sp. n.,
9. Larger (4 mm.) and more robust; antennæ stout; abdomen closely punctured *nimborum*, sp. n., p. 300.
Smaller (2.75-3.5 mm.) and narrower; antennæ slender; abdomen less closely punctured
10. Elytra pitchy-black, dull, more densely punctured [p. 303.
chakratiana, sp. n.,
Elytra reddish-brown, rather shining, less densely punctured..... *soror*, sp. n., p. 301.

1790. *Atheta (Metaxya) connexa*, sp. n.

Parallel, moderately shining, pitchy-black, the elytra smoky-brown. Antennæ black, the first one or two joints reddish. Legs reddish-yellow. Length 3-3.2 mm.

Except for the shape of the head this species has much the same build as *longicollis* Muls. et Rey, but it is more shining and has longer antennæ. Head large, almost as broad as the thorax, the eyes large, rather longer than the post-ocular region, the disc sometimes with a small impression, closely, moderately finely, distinctly punctured, finely coriaceous. Antennæ long and slender, the 3rd joint as long as the 2nd, 4th and following all longer than broad, gradually decreasing in length, the 10th only slightly longer than broad, the 11th distinctly longer than the 10th. Thorax as long as broad, the sides rounded in front, retracted and straighter behind, before the scutellum with a small transverse impression, the sculpture as on the head. Elytra broader, and a fourth longer than the thorax, very finely and closely punctured. Abdomen parallel, very finely and closely punctured, more sparingly on the last two segments. The whole insect finely and closely pubescent.

Sexual differences not apparent.

Dehra Dun : Kaligad. Mussooree district : Dhobi Ghat. At the margins of streams.

1791. *Atheta (Metaxya) connectens*, sp. n.

Very near *connexa*, but with the thorax reddish-brown, elytra lighter, yellowish in colour, the antennæ a little more

slender, with the joints a little longer, the puncturation of the fore-parts equally close but distinctly finer, that of the abdomen a little finer. In other respects similar to *connexa*.

♂: 8th dorsal segment truncate; 6th ventral segment a little produced and narrowed, the apex briefly rounded.

Dehra Dun: River Song; Aglar River. Mussooree: Keyarkuli.

1792. *Atheta* (*Metaxya*) *chatterjeel*, sp. n.

Size, colour, and lustre of *connexa*, but a little narrower, the antennæ thinner, with longer penultimate joints, the puncturation of the thorax much finer and much more superficial, the puncturation elsewhere also distinctly finer, but with the difference not so marked as on the thorax. Length 3-3.2 mm.

Sexual differences not evident.

Assam: Naga Hills. United Provinces: Chakrata district; Chulli Khud, alt. 8000 feet. Punjab: Kangra; Kumaun; Haldwani district.

1793. *Atheta* (*Metaxya*) *nimborum*, sp. n.

Moderately shining, black, the elytra blackish-brown. Antennæ black, the first two joints yellowish-brown. Legs reddish-yellow, the femora infusate. Length 4 mm.

In build, antennal structure, and abdominal puncturation much resembling *luridipennis* Mannerh., but the temples are only bordered behind, and the ♂ characters different from those of the subgenus *Pelurga*. The head is broad and subquadrate as in *luridipennis*, but the antennæ shorter and a little stouter, the 4th and 5th joints shorter, the abdomen rather more closely punctured. Head broad, a little narrower than the thorax, extremely finely, moderately closely punctured, distinctly coriaceous. Antennæ with the 3rd joint a little longer than the 2nd, 4th to 6th very slightly longer than broad, 7th to 10th scarcely differing, as long as broad, 11th as long as the 9th and 10th together. Thorax transverse (5.75:4.5), the sides in front gently rounded, straight and a little retracted behind, the posterior angles rounded, not impressed in the middle, rather closely, finely, but roughly punctured, the ground-sculpture as on the head. Elytra broader and about a third longer than the thorax, very slightly emarginate postero-externally, finely, closely and roughly punctured. Abdomen closely and finely punctured, a little less closely on the last two segments.

♂: 8th dorsal segment truncate, on each side with a triangular tooth; 6th ventral segment a little produced

and narrowed, the posterior border deeply arcuately emarginate.

N. Kumaun : Sangcha, alt. 14,500 feet (*H. G. Champion*). Unique. British Museum.

1794. *Atheta (Metaxya) incerta*, sp. n.

Moderately shining; head and abdomen black, the posterior margins of the segments narrowly and obscurely reddish; thorax reddish-brown; elytra brownish-yellow. Antennæ black, the first two joints and legs reddish-yellow. Length 3.5 mm.

In size and build much resembling *gyllenhali* Thoms., the antennæ more like those of *hygrotopora* Kr. Head suborbicular, narrower than the thorax, very finely and sparingly punctured, the ground-sculpture very feeble. Antennæ a little thickened towards apex, the 2nd and 3rd joints of equal length, 4th to 6th slightly longer than broad, decreasing in length, 7th as long as broad, 8th to 10th slightly transverse, 11th as long as the 9th and 10th together. Thorax transverse (4.75 : 4), the sides rounded in front, straight and retracted behind, before the scutellum with a small transverse impression; very finely, moderately closely punctured on the disc, much more sparingly towards the sides; ground-sculpture absent. Elytra broader and a fourth longer than the thorax, very finely, moderately closely punctured and without ground-sculpture. Abdomen parallel, a little narrowed before the apex, very finely, sparingly punctured, especially behind. Pubescence on the fore-parts fine, moderately close, very sparing on the abdomen.

Punjab : Dharmasala (*H. G. Champion*). Unique. British Museum.

1795. *Atheta (Metaxya) soror*, sp. n.

Subdepressed, narrow, elongate, parallel, moderately shining, head and abdomen black, thorax pitchy-black, elytra dark reddish-brown. Antennæ black, the first two joints reddish. Legs reddish-yellow. Length 3.5 mm.

In colour and general appearance very like *elongatula* Gr., but somewhat narrower, the head less orbicular, more transverse, with larger eyes, the thorax slightly shorter, the puncturation of the head and thorax more distinct, less concealed by the ground-sculpture, the puncturation of the elytra not so fine and somewhat rough. Head transverse, narrower than the thorax, the eyes large, about as long as the post-ocular region, finely coriaceous, extremely finely, moderately closely punctured. Antennæ with the 2nd and 3rd joints

of equal length, 4th and 5th a little longer than broad, 6th and 7th about as long as broad, 8th to 10th very slightly transverse, 11th shorter than the preceding two together. Thorax about a third broader than long, the sides rounded in front, retracted and straight behind, the posterior angles rounded, slightly impressed before the scutellum, coriaceous, extremely finely, moderately closely punctured. Elytra broader and a little longer than the thorax, very finely, rather closely, somewhat asperately punctured, very finely coriaceous. Abdomen parallel, finely, moderately closely punctured, less closely on the last two segments. The whole insect clothed with a fine yellow pubescence.

♂: 8th dorsal segment truncate; 6th ventral segment produced and broadly rounded.

Kashmir: Gulmarg, alt. 8000–9000 feet. Pir Panjal, alt. 7200 feet.

1796. *Atheta (Metaxya) shugnuensis*, sp. n.

Subdepressed, subparallel, greasy lustrous: head pitchy-black, thorax pitchy-brown, elytra brownish-yellow, abdomen pitchy-black with pitchy-brown base. Antennæ blackish. Legs reddish-yellow. Length 2.5 mm

In size and build very similar to *meridionalis* Rey, but less shining, the antennæ thinner, but similarly constructed. Head orbicular, a little narrower than the thorax, the eyes large, a little shorter than the post-ocular region, coriaceous, extremely finely, obsoletely, rather closely punctured. Antennæ moderate, the 3rd joint shorter than the 2nd, 4th and 5th a little longer than broad, 6th and 7th about as long as broad, 8th to 10th slightly transverse, the 11th as long as the two preceding together. Thorax slightly transverse, narrowed behind, without impression, closely, less finely, and less obsoletely punctured than the head, coriaceous. Elytra broader and a little longer than the thorax, extremely finely and closely punctured. Abdomen parallel, very finely and closely punctured and pubescent throughout.

♂(?): 8th dorsal segment truncate, on each side with a little tooth.

Manipur: Shugnu, alt. 3000 feet. In stream shingle.

1797. *Atheta (Metaxya) thincœioides*, sp. n.

Depressed, moderately shining, black, the elytra brownish-yellow. Antennæ black, the first two joints pitchy. Legs reddish-yellow. Length 2.75 mm.

In build and colour much resembling *gracilicornis* Er.,

but smaller, and with the temples bordered below, the antennæ shorter. Head subquadrate, a little narrower than the thorax, the eyes large, as long as the slightly retracted post-ocular region, sometimes with small impression on the disc, finely, obsoletely, and sparingly punctured, finely coriaceous. Antennæ with the 3rd joint slightly shorter than the 2nd, 4th to 7th slightly longer than broad, decreasing in length, the 8th to 10th about as long as broad, 11th shorter than the two preceding together. Thorax a third broader than long, the sides rounded in front, straighter, but not much retracted behind, the posterior angles obtuse, before the scutellum distinctly impressed and sometimes with a narrow, superficially impressed median line, the sculpture as on the head. Elytra broader and a third longer than the thorax, extremely finely, closely punctured. Abdomen parallel, finely, rather closely punctured, scarcely less closely on the last two segments. The whole insect covered with a fine yellow pubescence.

♂: 8th dorsal segment broadly truncate; 6th ventral segment a little produced, not at all narrowed, broadly rounded.

♀: 8th dorsal segment broadly arcuately emarginate in the middle of the posterior margin.

Dehra Dun: Song River, amongst the shingle. River Ganges, Chilla (*H. G. Champion*).

1798. *Atheta (Metaxya) assamensis*, sp. n.

In colour and build much resembling *thinæcioides*, but larger (3.2 mm.), the antennæ much thicker but similarly constructed, the abdomen much less closely punctured, especially on the last three segments, the head extremely finely sparingly and obsoletely punctured.

♂: 8th dorsal segment gently rounded; 6th ventral segment a little produced, narrowed and rounded.

♀: 8th dorsal segment with small arcuate emargination.

Assam: Naga Hills, Laimatak. In stream shingle.

1799. *Atheta (Metaxya) chakratiana*, sp. n.

Greasy lustrous, black, the elytra pitchy-black. Antennæ black, the first two joints reddish. Legs reddish-yellow. Length 2.75 mm.

In build very like *thinæcioides* but less shining, with dark, less finely punctured elytra, slightly shorter antennæ, with the 10th joint transverse, and much less closely punctured abdomen, especially on the last three segments.

♂: unknown.

Chakrata district: Sainj Khud, alt. 6500 feet.

1800. *Atheta* (*Metaxya*) *heterogyna*, sp. n.

Differs from *thinœcioides* in the narrower build, the thorax without a median impression, the elytra much less finely but the abdomen obviously more finely punctured.

♂: unknown.

♀: 8th dorsal segment with small semicircular excision in the middle of the posterior margin.

Chakrata district: Sainj Khud, alt. 6500 feet.

Subgenus *HYGRÆCIA* Muls. et Rey.

Hygræcia Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 279; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 229; Reitt., Faun. Germ. ii, 1909, p. 57; Johansen, Danmarks Rovbiller, 1914, p. 177; Fenyès, Gen. Ins. 173 B, 1920, p. 196; Portevin, Encycl. Ent. A, xii, 1929, i, p. 271; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 235.

Eyes moderate or rather small. Temples bordered at least behind. Antennæ with the 4th joint longer than broad, the penultimate distinctly transverse. Thorax moderately transverse, narrowed behind, setæ feeble, the pronotal epipleura visible from the side. Elytra longer than the thorax, not emarginate. Abdomen a little narrowed before the apex, the first three segments transversely impressed. Tibial setæ feeble. Mesosternal process short, the coxæ contiguous.

1801. *Atheta* (*Hygræcia*) *brachycephala*, sp. n.

Moderately shining, black, the elytra yellowish-brown. Antennæ black, the first three joints reddish-yellow. Legs reddish-yellow. Length 2.3 mm.

In build very similar to *magniceps* Sahlb., but a good deal smaller and with the penultimate joints of the antennæ more transverse. Head broad, only slightly narrower than the thorax, the eyes rather small, the post-ocular region a little dilated and rounded, only bordered behind, extremely finely and sparingly punctured in front, more closely behind, finely but distinctly coriaceous. Antennæ with the 2nd and 3rd joints of equal length, 4th to 6th a little longer than broad, gradually decreasing in length. 7th about as long as broad, 8th to 10th distinctly transverse. Thorax slightly transverse, the sides rounded in front, straighter and more retracted behind, narrowly and superficially impressed along the middle, extremely finely, moderately closely punctured, finely coriaceous. Elytra broader and slightly longer than the thorax, rather closely, finely and asperately punctured. Abdomen a little narrowed before apex, finely, rather sparingly punctured on the anterior segments, yet more sparingly behind; 8th dorsal segment with the posterior margin gently rounded.

Simla Hills: Gahan, alt. 7000 feet. In flood débris.

Subgenus *PARAMEOTICA* Ganglb.

Parameotica Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 228; Reitt., Faun. Germ. ii, 1909, p. 53; Johansen, Danmarks Rovbiller, 1914, p. 200; Fenyès, Gen. Ins. 173 B, 1920, p. 200; Portevin, Encycl. Ent. A, xii, 1929, i, p. 271; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 235.

Small, parallel species. Eyes small. Temples bordered at least behind. Antennæ with the 4th joint transverse, the penultimate strongly so. Thorax slightly transverse, the pronotal epipleura visible from the side. Elytra a little longer than the thorax, transverse, not emarginate postero-externally. Abdomen parallel, the first three visible tergites transversely impressed, the 7th longer than the 6th.

Key to the Species.

- Larger (1.75 mm.), more robust; head
and elytra yellowish-red *fulvescens*, sp. n., p. 305.
Smaller (1 mm.) and narrower; head and
elytra blackish *nigrorufa*, sp. n., p. 305.

1802. *Atheta (Parameotica) fulvescens*, sp. n.

Parallel, subdepressed, shining, yellowish-red, the 3rd and 4th (visible) abdominal segments blackish, the elytra yellow. Antennæ and legs reddish-yellow. Length 1.75 mm.

In build much resembling *laticeps* Thoms., but the antennæ stouter, in colour more like *complanata* Mannerh., in size intermediate. Head a little narrower than the thorax, suborbicular, eyes small, the disc with a small median impression, extremely finely, rather sparingly punctured, finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate joints twice as broad as long. Thorax a third broader than long, the sides gently rounded in front, straighter and more retracted behind, the posterior angles rounded, broadly and superficially impressed along the middle, the sculpture as on the head. Elytra a little broader and a little longer than the thorax, a little broader than long, extremely finely, closely punctured. Abdomen parallel, extremely finely, sparingly punctured, more sparingly on the last two segments. Pubescence fine and yellow.

Siwaliks: Asarori. Dehra Dun.

1803. *Atheta (Parameotica) nigrorufa*, sp. n.

Minute, parallel, moderately shining, yellowish-red, the head and elytra blackish, the base of the latter narrowly lighter, abdomen with the 6th segment and base of the 7th

blackish. Antennæ reddish-brown, the first two joints and legs reddish-yellow. Length 1 mm.

A minute species, much resembling *Pseudomeotica colorata* but smaller, the antennæ thinner, the eyes smaller and the anterior tarsi 4-jointed. Head a little narrower than the thorax, the eyes small, the post-ocular region slightly rounded and dilated, extremely finely, rather closely and obsoletely punctured, very finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th to 10th transverse, the penultimate joints twice as broad as long. Thorax slightly transverse, extremely finely, rather closely and more distinctly punctured than the head, the ground-sculpture similar. Elytra as long as and slightly broader than the thorax, as closely but less finely punctured. Abdomen parallel, extremely finely, moderately closely punctured throughout. The whole insect with a very fine, moderately close yellow pubescence.

Dehra Dun. Mussooree : Arni Gad. On stream banks.

Subgenus *DRALICA* Muls. et Rey.

Dralica Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 186; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 220; Reitt., Faun. Germ. ii, 1909, p. 56; Johansen, Danmarks Rovbiller, 1914, p. 201; Fenyès, Gen. Ins. 173 B, 1920, p. 196; Portevin, Encycl. Ent. A, xii, 1929, i, p. 272; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 236.

Parallel or subparallel species. Eyes of normal size, temples bordered at least behind. Antennæ moderate, distinctly thickened towards apex, the 3rd joint shorter than the 2nd, the penultimate distinctly transverse. Thorax moderately transverse, the pronotal epipleura visible from the side. Elytra longer than the thorax, not or scarcely emarginate postero-externally. Abdomen parallel or slightly narrowed before the apex, the first three visible segments transversely impressed, closely and finely punctured and pubescent throughout.

Key to the Species.

Black species, only the elytra brownish-
yellow or reddish *scrobicollis* Kr., p. 306.
Species in great part yellowish-red *pallescens*, sp. n., p. 307.

1804. *Atheta (Dralica) scrobicollis*.

Homalota scrobicollis Kr.*, Arch. Naturg. xv, 1859, p. 31.

Atheta cava Fauv., Bull. Soc. Linn. Norm. (3) ii, p. 142; id., Faun. Gallo-Rhén. iii, 1872, p. 738; id., Not. Ent. 1902, p. 139; Portevin, Encycl. Ent. A, xii, 1929, i, p. 272.

Phlæopora indica Kr.*, Arch. Naturg. xv, 1859, p. 42.

Parallel, shining, black, the elytra yellowish-red, infuscate

towards the base. Antennæ black, the 1st joint pitchy. Legs reddish-yellow. Length 1·8–2 mm.

Head narrower than the thorax, rounded and very slightly dilated behind the flat eyes, sometimes with a small median fovea, extremely finely, indistinctly, moderately closely punctured, very finely coriaceous. Antennæ with the 3rd joint about as long as the 2nd, 4th scarcely, 5th to 10th distinctly transverse, scarcely increasing in width, 11th as long as the 9th and 10th together. Thorax slightly transverse, the sides and posterior angles gently rounded, along the middle in the ♂ with a large oval impression, in the ♀ scarcely impressed, extremely finely but more closely and distinctly punctured than the head. Elytra a little longer and broader than the thorax, transverse, very finely and closely punctured. Abdomen parallel, very finely and rather closely punctured and pubescent throughout.

♂: 8th dorsal segment truncate: 6th ventral segment a little produced and broadly rounded.

Dehra Dun. Simla Hills, Matiana, alt. 7900 feet. Kashmir, Gulmarg, alt. 8000–9000 feet. Also in Europe.

1805. *Atheta (Dralica) pallescens*, sp. n.

Parallel, shining; head and last three abdominal segments black, thorax and first three segments yellowish-red. Elytra yellow. Antennæ black, the first three joints and the legs reddish-yellow. Length 1·8 mm.

Of the size of *vilis* Er., but differs in the colour, less closely punctured abdomen, absence of ground-sculpture on the fore-parts, less transverse thorax with straighter sides and thicker antennæ. Head narrower than the thorax, the eyes flat, a little shorter than the post-ocular region, very finely, rather closely punctured except the front, which has only a few extremely fine punctures; ground-sculpture absent. Antennæ with the 3rd joint shorter than the 2nd, 4th slightly, 5th to 10th strongly transverse. Thorax slightly transverse, scarcely a third broader than long, the sides gently rounded in front, straighter and slightly retracted behind, the posterior angles obtuse, extremely finely, rather closely punctured; ground-sculpture absent. Elytra a little longer and broader than the thorax, transverse, extremely finely and yet more closely punctured. Abdomen parallel, very finely, rather closely punctured and pubescent throughout. The whole insect finely yellow pubescent.

Siwaliks: Nakraunda. In a marsh.

Subgenus *OUSIPALIA* Des Gozis.

Ousipalia Des Gozis, Rech. esp. typ. 1886, p. 13; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 218; Reitt., Faun. Germ. ii, 1909, p. 49; Johansen, Danmarks Rovbiller, 1914, p. 198; Fenyès, Gen. Ins. 173 B, 1920, p. 251; Bernh., Kol. Rundsch. xiv, 1928, pp. 14-15; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 236; Peyerimh., Bull. Soc. Ent. Fr. xl, 1935, p. 174.

Sibiota Casey, Trans. Acad. Sci. St. Louis, xvi, 1906, p. 350 (ex parte).

Small species. Head more or less orbicular or transversely suborbicular, the eyes very small, temples not bordered below. Antennæ thickened towards apex, the penultimate joints strongly transverse. Thorax slightly transverse, the pronotal epipleura visible from the side. Elytra shorter than the thorax, scarcely emarginate at the postero-external angles. Abdomen parallel or a little widened behind, the first three visible segments transversely impressed. This subgenus very closely resembles *Sipalia* Muls. et Rey, but is readily recognized by the pubescence of the thorax being directed backwards and outwards from the middle line, whereas in *Sipalia* it lies in an antero-posterior direction, and the 7th dorsal segment in the ♂ without keel or keels.

Key to the Species.

- | | |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 1. Brightly coloured yellowish-red species.... | <i>seclusa</i> , sp. n., p. 309. |
| Dark species | 2. |
| 2. 3rd joint of antennæ a little shorter than the
2nd, 4th about as long as broad; thorax
closely punctured | <i>lentula</i> , sp. n., p. 308. |
| 3rd joint of antennæ much shorter than 2nd,
4th strongly transverse; thorax very
sparingly punctured | <i>tarda</i> , sp. n., p. 309. |

1806. *Atheta* (*Ousipalia*) *lentula*, sp. n.

Rather shining, black or pitchy-black, the elytra and last abdominal segment brownish-yellow. Antennæ reddish-yellow, more or less infusate from the 4th joint. Legs reddish-yellow. Length 2 mm.

In colour and lustre very similar to *cæsula* Er. but a little larger, the thorax longer, much more closely and distinctly punctured, the elytra less closely punctured. Head suborbicular, almost as broad as the thorax, eyes very small. Vertex in ♂ broadly impressed, in the ♀ with a small fovea, very finely, sparingly punctured, finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 5th to 10th transverse, increasing in width, the penultimate twice as broad as long.

Thorax very slightly transverse, the sides gently rounded, more retracted behind, in the ♂ broadly superficially impressed along the middle of the posterior half, in the ♀ scarcely impressed, the puncturation closer and less fine than on the head, finely coriaceous. Elytra a little widened behind, transverse, a third shorter and slightly broader than the thorax, finely, more sparingly punctured than the thorax, the punctures asperate, finely coriaceous. Abdomen slightly narrowed before the apex, very finely and very sparingly punctured. The whole insect finely and sparingly pubescent.

♂: 7th dorsal segment with a row of small granules along the posterior margin; 8th covered with large granules, the posterior margin rounded; 6th ventral segment produced, narrowed and truncate.

♀: 7th dorsal segment as in the ♂; 8th covered with small granules like those on the preceding segment, the posterior margin rounded.

Kashmir: Gulmarg, alt. 8000–9000 feet.

1807. *Atheta (Ousipalia) tarda*, sp. n.

Very similar to *lentula*, but with the elytra and apex of the abdomen concolorous, pitchy-black, the antennæ darker, shorter, and stouter, the first three joints pitchy. Thorax with the sides less evenly rounded, straighter behind, both it and the elytra more finely and much more sparingly punctured, the head and thorax without impressions.

♂: unknown.

Kashmir: Gulmarg, alt. 8000–9000 feet.

1808. *Atheta (Ousipalia) seclusa*, sp. n.

Shining, yellowish-red, the 3rd and 4th (visible) segments of the abdomen blackish. Antennæ and legs reddish-yellow. Length 1.5 mm.

Head small, round, a little narrowed in front of the eyes, narrower than the thorax, eyes very small, extremely finely, rather sparingly punctured, finely coriaceous. Antennæ short, the 3rd joint shorter than the 2nd, 4th to 10th transverse, increasing in width, the penultimate almost three times broader than long, the 11th conical, about as long as the preceding two together. Thorax about a fourth broader than long, a little narrowed behind, before the scutellum with a small impression, the sculpture as on the head. Elytra a little shorter than the thorax, broader than long, slightly widened behind, the humeral angles rounded, very finely, a little more closely punctured than the thorax, very finely

coriaceous. Abdomen a little widened behind, very finely coriaceous, very finely and sparingly punctured. The whole insect finely and sparingly pubescent.

Chakrata district : Dodora Khud, alt. 8000 feet.

Subgenus *OREOSTIBA* Ganglb.

Oreostiba Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 219; Reitt., Faun. Germ. ii, 1909, p. 51; Johansen, Danmarks Rovbiller, 1914, p. 198; Fenyès, Gen. Ins. 173 B, 1920, p. 194; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 237.

Head round, eyes small, much shorter than the post-ocular region, temples briefly bordered behind. Antennæ with the penultimate joints moderately transverse. Thorax a third broader than long, the pronotal epipleura visible from the side. Elytra as long or but little longer than the thorax, not emarginate postero-externally. Abdomen parallel, the first three visible segments transversely impressed, the posterior segments distinctly less punctured than the anterior.

The species are found in moss in mountainous regions.

1809. *Atheta* (*Oreostiba*) *nimbicola*, sp. n.

Shining black. Antennæ black. Legs pitchy, tarsi yellow. Length 3 mm.

In build very similar to *tibialis* Heer, differs from it in the dark legs and the shorter and so more transverse penultimate joints of the antennæ, the elytra and abdomen more sparingly punctured. Head narrower than the thorax, coriaceous, extremely finely, moderately closely punctured at the sides, almost impunctate along the middle, in the ♂ with a large, in the ♀ with a small, impression. Antennæ with the 3rd joint a little shorter than the 2nd, 4th as long as broad, 5th slightly, 6th to 10th more strongly transverse. Thorax a third broader than long, the sides slightly rounded in front, straighter and slightly retracted behind, the posterior angles obtuse, in the ♂ with a slight longitudinal impression on each side of the middle behind, extremely finely, moderately closely punctured, coriaceous. Elytra as long as but broader than the thorax, very finely, roughly, moderately closely punctured, coriaceous. Abdomen parallel, finely and rather sparingly punctured on the anterior segments, yet more sparingly on the posterior ones.

♂: 8th dorsal segment with truncate posterior border, the angles obtuse; 6th ventral segment a little produced and narrowed, the posterior margin rounded.

Kashmir: Aphar Wat, alt. 13,000 feet; Gulmarg, alt. 9000 feet.

Subgenus *TAXICERA* Muls. et Rey.

Taxicera Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 289; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 208; Reitt., Faun. Germ. ii, 1909, p. 54; Fenyès, Gen. Ins. 173 a, 1920, p. 190; Uhmman, Ent. Blätt. (Berlin) xxiii, 1927, p. 35; Portevin, Encycl. Ent. A, xii, 1929, i, p. 272; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 237.

Parallel species. Eyes rather large, temples completely bordered below. Antennæ stout, the 3rd joint shorter than the 2nd, the penultimate joints strongly transverse. Thorax strongly transverse, the pronotal epipleura visible from the side. Elytra longer than the thorax, not emarginate postero-externally. Abdomen slightly widened behind, the first three visible segments distinctly, the two following very indistinctly transversely impressed. Mesosternal process rectangular, metasternal process not extending between the coxæ, these contiguous. Anterior and middle tibiæ very finely, closely spinose, without long setæ.

Key to the Species.

- | | |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| 1. Shining; head, thorax, and elytra without ground-sculpture; thorax reddish-brown. | [p. 311. |
| Less shining; head, thorax, and elytra with distinct ground-sculpture; thorax black. | <i>necrophila</i> , sp. n., |
| 2. Larger (2 mm.); thorax very finely, moderately closely punctured; 3rd joint of antennæ strongly compressed laterally... | 2. |
| Smaller (1.75 mm.); thorax very finely, sparingly punctured; 3rd joint of antennæ not compressed | <i>tertiana</i> , sp. n., p. 313. |
| | <i>atra</i> , sp. n., p. 312. |

1810. *Atheta* (*Taxicera*) *necrophila*, sp. n.

Parallel, shining; head and abdomen black, the latter reddish at the base and apex; thorax reddish-brown; elytra brownish-yellow. Antennæ black, the first two or three joints reddish. Legs reddish-yellow. Length 1.6–2 mm.

Narrower and more shining than *deplanata* Gr., the antennæ thinner, the thorax in both sexes without ground-sculpture. Head broad, but narrower than the thorax, the eyes rather large, vertex in the ♂ broadly impressed, in the ♀ convex, smooth along the middle, at the sides with some rather large punctures, ground-sculpture absent in ♂, scarcely visible in the ♀. Antennæ with the 2nd joint shorter than the 1st, 3rd shorter than 2nd, 4th transverse, 5th to 10th more strongly, the penultimate joints nearly three times broader than long, 11th conical, as long as the 9th and 10th together. Thorax fully a half broader than long, the sides gently rounded, more retracted behind, the posterior angles rounded, in the ♂

with a broad impression along the middle, in the ♀ with a small impression before the scutellum, puncturation rather coarse like that of the head and moderately close; ground-sculpture absent in both sexes. Elytra slightly broader and a half longer than the thorax, moderately finely and moderately closely punctured, rather more finely towards the base. Abdomen parallel, except for a row of extremely fine punctures along the posterior margins of the segments practically impunctate. The whole insect very sparingly pubescent.

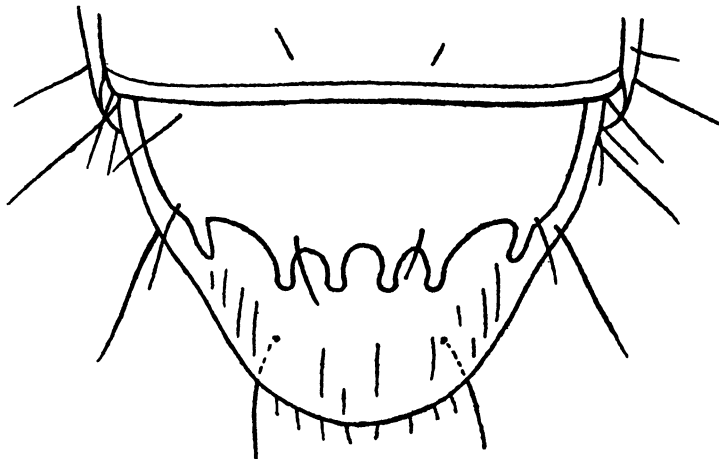


Fig. 91.—*Atheta (Taxicera) necrophila*, ♂, apex of abdomen.

♂: 8th dorsal segment with the posterior margin gently rounded, and furnished with two or four short blunt teeth, externally on each side with a short and sharp spine; 6th ventral segment strongly produced, narrowed and rounded at apex.

Siwaliks: Malhan Range. Dehra Dun: Nun Nadi. In small carcasses.

1811. *Atheta (Taxicera) atra*, sp. n.

Shining, black, the elytra obscurely brown on the disc. Antennæ black. Legs reddish-yellow. Length 1.5 mm.

Head subquadrate, a little narrower than the thorax, eyes rather large, not prominent, shorter than the post-ocular region, extremely finely and very sparingly punctured, very finely coriaceous. Antennæ with the 1st and 2nd joints of equal length, 3rd much shorter, 4th small, transverse, 5th to 10th much more strongly transverse, three times as broad as long, the 11th as long as the preceding two together. Thorax a half broader than long, the sides gently rounded,

more retracted behind, the disc in the ♂ broadly and superficially impressed, the sculpture as on the head. Elytra a little broader and nearly a half longer than the thorax, extremely finely, very sparingly punctured, finely coriaceous. Abdomen a little widened behind, extremely finely, sparingly punctured, especially behind, very finely coriaceous. Pubescence throughout fine, sparing, and yellow.

♂: 8th dorsal segment broadly and feebly emarginate and finely crenulate; 6th ventral segment a little produced and broadly rounded.

Dehra Dun. In exposed Termite's comb.

1812. *Atheta (Taxicera) tertiana*, sp. n.

Larger (2 mm.) and more robust than *atra*, less shining, the head broader, antennæ longer, the first two joints yellowish-brown, the 3rd strongly compressed laterally, triangular, head and thorax more strongly coriaceous, thorax more closely punctured, elytra rather closely punctured, brownish-yellow; in other respects like *atra*.

The single example is probably ♀.

Siwaliks: Mothronwala. In exposed Termite's comb.

Subgenus *BESSOBIA* Thoms.

Bessobia Thoms., Öfv. Svenska Vet.-Akad. Forh. 1858, p. 35; id., Skand. Col. iii, 1861, p. 42; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 128; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 202; Bernh., W. Z. B. lvii, 1907, p. 393; Reitt., Faun. Germ. ii, 1909, p. 47; Johansen, Danmarks Rovbiller, 1914, p. 182; Fenyès, Gen. Ins. 173 B, 1920, p. 216; Portevin, Encycl. Ent. A, xii, 1929, i, p. 275; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 239.

Trichiota Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 131.

Temples entirely bordered below. Antennæ with the 2nd and 3rd joints of equal length, the penultimate distinctly transverse. Thorax moderately transverse, the pronotal epipleura visible from the side. Elytra not emarginate. Abdomen parallel, the first four visible segments transversely impressed at base. Tibiæ with fine but rather long setæ.

1813. *Atheta (Bessobia) submetallica*.

Atheta (Bessobia) submetallica Cam., Mem. Connect. Acad. x, 1934, p. 20.

Moderately shining, black; head, thorax and elytra with slight metallic reflex. Antennæ black. Legs black, the tarsi yellow. Length 2.2 mm.

In build and size very similar to *excellens* Kr., the antennæ similarly constructed but less stout. Head large, only slightly narrower than the thorax, the disc with a small impression, extremely finely, sparingly punctured, distinctly coriaceous, but less strongly than in *excellens*. Antennæ with the 3rd joint as long as the 2nd, 4th to 10th transverse, the penultimate about twice as broad as long. Thorax a third broader than long, the sides slightly rounded, more retracted behind, the posterior angles rounded, feebly and broadly impressed in the middle behind, the puncturation less fine than that of the head and closer, the ground-sculpture similar. Elytra a little broader and a third longer than the thorax, very finely, closely, asperately punctured, the ground-sculpture similar. Abdomen with the first four visible segments transversely impressed at the base, very finely, asperately, rather sparingly punctured, especially behind, coriaceous; 8th dorsal segment broadly rounded. Tibia without setæ.

Indian Tibet: Tsak-Shang, alt. 15,985 feet, 31. viii. 32. Amongst scanty grass near stream. Unique. British Museum.

Subgenus *TRAUMÆCIA* Muls. et Rey.

Traumæcia Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 631; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 199; Johansen, Danmarks Rovbiller, 1914, p. 171; Fenyès, Gen. Ins. 173 B, 1920, p. 217; Portevin, Encycl. Ent. A, xii, 1929, i, p. 275; Schœerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 240.

Temples bordered behind, the border evanescent in front. Antennæ with the 2nd and 3rd joints of equal length, the penultimate transverse but sometimes as long as broad. Thorax slightly transverse, the pronotal epipleura visible from the side. Elytra not emarginate. Abdomen parallel, the first three segments transversely impressed. Tibiæ without setæ. Tarsi rather long. Mesosternal process acute, extending at least to the middle of the coxæ. The fore-parts strongly or rather strongly coriaceous, only moderately shining.

Key to the Species.

- | | |
|-----------------------------------------------------------------------------------------------|------------------------------------|
| 1. Species in greater part black, the
elytra sometimes yellow or brownish-
yellow | 2. |
| Species in part red or yellowish-red | 6. |
| 2. Elytra yellow or brownish-yellow | 3. |
| Elytra dark | 4. |
| 3. 10th joint of antenna very slightly
transverse, almost square | <i>suspecta</i> , sp. n., p. 316. |
| 10th joint of antenna distinctly trans-
verse | <i>discedens</i> , sp. n., p. 315. |

- | | |
|-------------------------------------------------------------------------------|---------------------------------------|
| 4. Antennæ with the base reddish or reddish-yellow | 5. |
| Antennæ entirely dark | <i>prævia</i> , sp. n., p. 316. |
| 5. Larger (3 mm.) and more robust, less closely punctured | <i>subcorticalis</i> , sp. n., p. 315 |
| Smaller (2.75 mm.) and narrower, more closely punctured | [p. 316. |
| 6. More robust, 5th to 7th joints of antenna a little longer than broad | <i>subcorticina</i> , sp. n., |
| Narrower, 5th to 10th joints of antenna distinctly transverse | <i>formosa</i> , sp. n., p. 317. |
| | <i>placita</i> , sp. n., p. 318. |

1814. *Atheta* (*Traumœcia*) *subcorticalis*, sp. n.

Moderately shining, black, the elytra brown. Antennæ black, the 1st joint pitchy. Legs reddish-yellow. Length 3 mm.

In colour and antennal structure very similar to *picipes* Thoms., but more shining, the ground-sculpture less marked; head narrower, thorax as long as broad, the sides less retracted behind. Head a good deal narrower than the thorax, eyes moderate, the disc with a small median fovea, extremely finely, very sparingly punctured, finely but distinctly coriaceous. Antennæ with the 3rd joint as long as the 2nd, 4th to 10th distinctly transverse, slightly increasing in width, the 11th as long as the 9th and 10th together. Thorax as long as broad, the sides almost straight and parallel, only slightly retracted behind, the posterior angles obtuse, before the scutellum with a minute fovea, the sculpture as on the head. Elytra a little longer and a little broader than the thorax, very finely, moderately closely asperately punctured, finely coriaceous. Abdomen very finely and sparingly punctured on the first four visible segments, yet more sparingly on the following, the posterior margin of the last segment rounded.

Simla Hills : Narkanda, alt. 9200 feet. Under bark.

1815. *Atheta* (*Traumœcia*) *discedens*, sp. n.

Moderately shining; head, thorax, and abdomen black, elytra brownish-yellow. Antennæ black. Femora brownish-yellow, tibiæ and tarsi reddish-yellow. Length 3 mm.

Differs from *picipes* Thoms. in the shorter and differently coloured elytra, but with similar antennæ. Head broad, a little narrower than the thorax, eyes moderate, very finely, moderately closely punctured behind, much more sparingly towards the front, finely but distinctly coriaceous. Antennæ scarcely differing from *picipes*, the 4th to 10th joints transverse, slightly increasing in width. Thorax about a third broader than long, the sides rounded in front, straighter and more retracted behind, the posterior angles obtuse, along the

posterior half in the middle narrowly and lightly impressed, very finely, moderately closely punctured, the ground-sculpture as on the head. Elytra broader, but only slightly longer than the thorax, closely, finely and asperately punctured, finely coriaceous. Abdomen a little narrowed before the apex, the anterior segments very finely, moderately closely punctured, the following much more sparingly. Posterior margin of the last dorsal segment rounded.

Chakrata district: Bodyar, alt. 8300 feet. Punjab: Mandi, Dhelu, alt. 4500 feet (*H. G. Champion*).

1816. *Atheta (Traumœcia) subcorticina*, sp. n.

In colour and build similar to *subcorticalis*, but narrower and less shining, the antennæ more slender but similarly constructed, the thorax a good deal more closely and distinctly punctured, the elytra as finely but more closely punctured. In other respects similar to that species. Length 2.75 mm.

Kashmir: Gulmarg, alt. 8000–9000 feet.

1817. *Atheta (Traumœcia) prævia*, sp. n.

Greasy lustrous, the head black, the rest pitchy-black, the abdomen more shining. Antennæ black. Legs reddish-yellow. Length 2.5 mm.

In colour and build very similar to *depressicollis* Fauv., but a little narrower and less dull, the antennæ similarly constructed but thinner. Head transversely suborbicular, narrower than the thorax, the eyes moderate, a little shorter than the post-ocular region, extremely finely, sparingly punctured, coriaceous. Antennæ rather slender, the 3rd joint a little shorter than the 2nd, 4th as long as broad, 5th to 10th transverse, slightly increasing in width, the 11th scarcely as long as the preceding two together. Thorax about a third broader than long, the sides rounded in front, straighter and more retracted behind, before the scutellum with a small fovea, the sculpture very similar to that of the head. Elytra broader and about a half longer than the thorax, very finely, closely, and roughly punctured, coriaceous. Abdomen a little narrowed before the apex, the first three visible segments finely and rather sparingly punctured, the following yet more sparingly, the last segment truncate.

Kashmir: Gulmarg, alt. 8000 feet.

1818. *Atheta (Traumœcia) suspecta*, sp. n.

Fore parts greasy lustrous. Abdomen shining. Head black, thorax pitchy, elytra brownish-yellow, somewhat

infusate at the scutellum. Abdomen black, the base dark reddish-brown. Antennæ black, the 1st joint pitchy. Legs reddish-yellow. Length 2.75 mm.

Narrow, parallel. Head narrower than the thorax, the eyes rather large, the disc with a small median fovea, extremely finely, sparingly punctured, rather strongly coriaceous. Antennæ with 2nd and 3rd joints of equal length, 4th as long as broad, 5th and following transverse, the 10th longer than the 9th and so less transverse, the 11th as long as the 9th and 10th together. Thorax slightly transverse, the sides rounded in front, straighter and more retracted behind, the posterior angles obtuse, the middle in the posterior half superficially impressed, the puncturation as fine but a good deal closer than on the head, the ground-sculpture similar. Elytra about a third longer and a little broader than the thorax, as finely but more closely punctured, finely coriaceous. Abdomen parallel, sparingly and finely punctured on the anterior segments, yet more sparingly on the posterior.

♂ (?): 8th dorsal segment with the posterior margin trisinate, the median emargination broader than the lateral ones.

Mussooree : Mossy Falls.

1819. *Atheta* (*Traumœcia*) *formosa*, sp. n.

Moderately shining; head black; thorax reddish-brown; elytra brownish-yellow; abdomen pitchy-black, the 1st visible segment reddish-yellow. Antennæ black, the first two joints and legs reddish-yellow. Length 2.75 mm.

Head broad, but narrower than the thorax, very finely, moderately closely punctured, coriaceous. Antennæ with the 4th joint as long as broad, 5th to 7th a little longer than broad gradually decreasing in length, 8th to 10th as long as broad, 11th longer than the 9th and 10th together. Thorax transverse (3.5 : 3), sometimes with a small impression before the scutellum, the sides without setæ, more closely and less finely punctured than the head, the ground-sculpture similar. Elytra a little longer and broader than the thorax, the puncturation closer and not so fine. Abdomen parallel, closely and finely punctured on the first three visible segments, much less closely on the last two. Tibiæ without setæ. This species has the broad head of *angusticollis* Thoms., but with the thorax as in *ravilla* Er.; the antennæ also are very similar to those of this species, but not so stout, and the 11th joint not quite so long, though longer than in *angusticollis*; the elytra are shorter than in either of these species.

Dehra Dun.

1820. *Atheta* (*Traumœcia*) *placita*, sp. n.

Moderately shining; head black; thorax red; elytra reddish, more or less extensively infusate postero-externally; abdomen with the first two visible segments red, 3rd to 5th black, the posterior margin of the penultimate segment and whole of the last reddish-yellow. Antennæ black, the first three joints and legs reddish-yellow. Length 2·3 mm.

Narrow, parallel. Head narrower than the thorax, the vertex with a fovea, finely and sparingly punctured, distinctly coriaceous. Antennæ with 3rd joint as long as the 2nd, 4th slightly, the following more transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax transverse (2·75 : 2·3), sometimes with an impression before the scutellum, as finely but more closely punctured than the head, the ground-sculpture similar. Elytra a little longer and broader than the thorax, less finely and more closely punctured. Abdomen very finely, moderately closely punctured on the anterior segments, much more sparingly behind.

♂: 6th ventral segment a little produced, narrowed and rounded at apex.

Ghum : Tiger Hill, alt. 8500–10,000 feet.

Subgenus *PHILHYGRA* Muls. et Rey.

Philhygra Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 308; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 198; Bernh., W. Z. B. lvii, 1907, p. 396; Johansen, Danmarks Rovbiller, 1914, p. 170; Fenyès, Gen. Ins. 173 B, 1920, p. 200; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 240.

Shining or rather shining parallel species. Temples entirely bordered below. Antennæ moderately thickened towards apex, the 2nd and 3rd joints subequal. Thorax slightly transverse, the pronotal epipleura visible from the side. Elytra not emarginate. Abdomen parallel, the first three visible segments transversely impressed. Tibiæ without or with only feeble setæ, tarsi rather long. Mesosternal process acute, extending quite to the middle of the coxæ. This subgenus is not very clearly separated from *Traumœcia*, but the species are more shining and less coriaceous.

Key to the Species.

- | | |
|-----------------------------------------------------|-------------------------------------|
| 1. Species in great part black or pitchy-black..... | 2. |
| Species with thorax and abdomen bright red | <i>dohertyi</i> , sp. n., p. 320. |
| | [p. 319. |
| 2. Elytra clear yellow; larger (2·5–3 mm.). | <i>sinuatocrenata</i> Bernh., |
| Elytra brownish-yellow; smaller (2 mm.). | <i>contingens</i> , sp. n., p. 319. |

1821. *Atheta (Philhygra) sinuatocrenata*.

Atheta (Philhygra) sinuatocrenata Bernh., Col. Rundsch. v, 1916, p. 22.

Parallel, shining, black, the elytra yellow, the postero-external angles infuscate. Antennæ black, the 1st joint reddish. Legs reddish-yellow. Length 2.5-3 mm.

In build similar to *palustris* Kiesw., but differs in the brightly coloured elytra, rather stouter antennæ, and much more sparing puncturation throughout. Head large, but narrower than the thorax, eyes rather large, the disc with a slight longitudinal impression in the middle at least in the ♂, extremely finely, sparingly punctured, very finely coriaceous. Antennæ with the 3rd joint as long as the 2nd, 4th as long as broad, 5th to 10th gradually more transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax nearly a third broader than long, the sides gently rounded in front, straighter and more retracted behind, before the scutellum with a small transverse impression, the sculpture as on the head. Elytra a little broader and a third longer than the thorax, very finely, moderately closely punctured, very finely coriaceous. Abdomen parallel, very finely, rather sparingly punctured on the first three segments, much more sparingly on the following, very finely coriaceous, more strongly on the 8th segment.

♂: 8th dorsal segment with rounded and very finely crenulate posterior margin.

Dehra Dun. Chakrata district: Chulli Khud, alt. 6500 feet.

1822. *Atheta (Philhygra) contingens*, sp. n.

Moderately shining; head and abdomen black, thorax pitchy-black, elytra yellowish-brown. Antennæ black, the first two joints and legs reddish-yellow. Length 2 mm.

In build, colour, and lustre very like *palustris* Ksw., but usually rather smaller, the antennæ a good deal thinner, puncturation of the head and thorax finer, more obsolete, the abdomen a little less finely and a little less closely punctured. Head broad, a little narrower than the thorax, extremely finely, sparingly punctured, finely coriaceous, the eyes moderate. Antennæ rather slender, the 3rd joint scarcely shorter than the 2nd, 4th as long as broad, 5th to 10th transverse, the penultimate joint about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax slightly transverse (3:2.5), a little narrowed behind, very finely, moderately closely punctured, finely coriaceous. Elytra broader and longer (3.5:2.5) than the thorax, not emarginate, very finely, rather closely asperately punctured. Abdomen

parallel, very finely, sparingly punctured on the first three segments, more sparingly on the following.

Chakrata district : Chulli Khud, alt. 6500 feet.

1823. *Atheta* (*Philhygra*) *dohertyi*, sp. n.

Very shining ; head black, thorax and abdomen bright red, the posterior part of the 5th, the whole of the 6th segment and base of the 7th black ; elytra reddish-brown. Antennæ reddish, the first two joints and legs reddish-yellow. Length 2 mm.

More shining and more brightly coloured than *placita*, with narrower head and thorax and different sculpture, the antennæ very similarly constructed. Head a little narrower than the thorax, subquadrate, with rounded posterior angles, the eyes moderate, extremely finely and sparingly punctured, the ground-sculpture scarcely visible. Antennæ with the 3rd joint shorter than the 2nd, 4th to 10th transverse, the penultimate about a half broader than long. Thorax scarcely transverse, the sides nearly straight, slightly retracted behind, sometimes with a small fovea before the scutellum, very finely and sparingly punctured and without ground-sculpture. Elytra a little broader and very slightly longer than the thorax, very finely but more closely punctured. Abdomen parallel, extremely finely and very sparingly punctured, the last three segments almost impunctate. The pubescence throughout fine, yellow, and scanty.

Burma : Karen Mountains (*Doherty*). British Museum.

Subgenus *MICRODOTA* Muls. et Rey.

Microdota Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 295 ; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 192 ; Reitt., Faun. Germ. ii, 1909, p. 56 ; Johansen, Danmarks Rovbiller. 1914, p. 165 ; Fenyès, Gen. Ins. 173 B, 1920, p. 185 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 276 ; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 240.

Heteronoma Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 33.

Heterophæna Lynch Arribalz., Bol. Acad. Nat. Cienc. Cordoba, vii, 1884, p. 33.

Hilara Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 298 (ex parte).

Small species, with the antennæ distinctly thickened towards apex, the penultimate joints distinctly transverse, the 3rd joint distinctly shorter than the 2nd. Eyes moderate or large, the temples bordered at least behind. Thorax moderately transverse, the lateral setæ rather feeble, the pronotal epipleura visible from the side. Abdomen parallel, subparallel or slightly widened behind, the first three visible

segments transversely impressed at their base, the posterior segments obviously less closely punctured than the anterior. Tibial setæ feeble. Tarsi moderate.

This subgenus is likely to be confused only with *Datomicra*, but the thorax is narrower. The shape of the abdomen is a somewhat equivocal character, as in some examples of *Datomicra* the abdomen is subparallel as in some specimens of *Microdota*.

Key to the Species.

1. Sculpture of thorax fine but rough, obscurely coloured species. 2.
Sculpture of thorax fine, scarcely rough, more or less confused with the ground-sculpture when present 9.
2. Penultimate segments of the abdomen closely or rather closely punctured 3.
Penultimate segments of the abdomen sparingly punctured 6.
3. Antennæ black; elytra black, brown, or yellowish-brown 4.
Antennæ with the first two joints yellowish; elytra dirty yellow. ♂: 8th dorsal segment with two broad teeth separated by a shallow arcuate emargination; on each side with a slender spine separated from the teeth by a rather deep arcuate emargination *subscabra*, sp. n., p. 333. [p. 332.
4. Larger (2 mm.) and more robust; elytra black, distinctly longer than the thorax. Smaller (1.3 mm.) and narrower; elytra brown or yellowish-brown, slightly longer than the thorax *scabriventris*, sp. n., 5.
5. Punctuation of head and thorax closer and rougher *scabrella*, sp. n., p. 335.
Punctuation of head and thorax less close and less rough; ♂ characters as in *subscabra* [p. 332. *subatricolor*, sp. n.,
6. Antennæ longer, the 4th joint not transverse, the penultimate a half broader than long. ♂: 8th dorsal segment truncate; 6th ventral segment produced, slightly narrowed and broadly rounded. Antennæ shorter, the 4th joint transverse, the penultimate twice as broad as long. *vulgaris* Cam., p. 335.
7. Antennæ with the base clear reddish-yellow. ♂: 8th dorsal segment feebly rounded; 6th ventral segment a good deal produced, slightly narrowed and broadly rounded *sororcula*, sp. n., p. 324.
Antennæ with the base black or pitchy; narrow species. 8.
8. 11th joint of antennæ rather long; thorax closely punctured. ♂: 8th dorsal segment feebly arcuately emarginate; 6th ventral segment a little produced, narrowed and rounded *puerilis*, sp. n., p. 334. [p. 334.
11th joint of antennæ short and conical; thorax more sparingly punctured *gracillima*, sp. n.,

9. Thorax without ground-sculpture 10.
 Thorax with ground-sculpture, sometimes feeble 11.
10. Head distinctly transverse, suborbicular; elytra yellow [p. 328.
mediocris, sp. n.,
alia, sp. n., p. 324.
- Head very slightly transverse; elytra brownish-yellow 12.
 15.
11. Antennæ entirely black 12.
 Antennæ with reddish-yellow base 15.
12. Larger (2·2 mm.); legs pitchy. the knees and tarsi yellow *ladakiana* Cam., p. 331.
 Smaller (1·3–2 mm.); legs reddish-yellow. 13.
13. Abdomen as closely punctured on the posterior segments as on the anterior .. *subægra*, sp. n., p. 324.
 Abdomen less closely punctured behind .. 14.
14. Elytra rather sparingly punctured; antennæ longer and more slender; broader species. ♂: 8th dorsal segment truncate; 6th ventral segment produced and narrowed, the apex rounded [p. 323.
subluctuosa, sp. n.,
 Elytra closely punctured; antennæ shorter and stouter [p. 333.
subatomaria, sp. n.,
15. More brightly coloured species, the thorax and base and apex of abdomen red or yellowish-red 16.
 Darker coloured species 18.
16. Smaller (1·5 mm.); elytra yellow. ♂: 8th dorsal segment truncate in the middle, often with three or four feeble crenulations, on each side with a sharp tooth separated from the truncate part by a rather deep arcuate emargination *inutilis* Kr., p. 330.
 Larger (1·75–2 mm.); elytra brown or yellowish-brown 17.
17. Head extremely finely, simply punctured; penultimate joints of antennæ twice as broad as long. ♂: 8th dorsal segment very slightly broadly emarginate; 6th ventral segment slightly produced and broadly rounded [p. 329.
masuriensis, sp. n.,
 Head with flat obsolete superficial punctures; penultimate joints of antennæ more than twice as broad as long. ♂: 8th dorsal segment truncate in the middle and with three or four blunt teeth, on each side with a slender spine produced beyond the level of the truncate part and separated from it by a deep arcuate emargination [p. 320.
rufonigra, sp. n.,
18. Eyes large and prominent 19.
 Eyes normal 20.
19. Thorax rather sparingly, extremely finely punctured. ♂: 8th dorsal segment with three blunt teeth on the posterior margin and on each side with a sharper but not longer one; 6th ventral segment a little produced and rounded *ocularis*, sp. n., p. 327.
 Thorax rather closely yet more finely and obsoletely punctured. ♂: 8th dorsal segment broadly truncate, closely, scarcely perceptibly crenulate, on each side with a small tooth *optica*, sp. n., p. 328.

20. Rather shining species 21.
 Greasy lustrous species. ♂: 8th dorsal segment broadly and feebly emarginate and obsoletely crenulate, on each side with a little tooth; 6th ventral segment slightly produced and rounded *sericella*, sp. n., p. 327.
21. Larger (1.75–2 mm.) and more robust ... 22.
 Smaller (1.5–1.75 mm.) and narrower 23.
22. Elytra blackish-brown. ♂: 8th dorsal segment truncate; 6th ventral segment a little produced, narrowed and rounded at apex [p. 329.
amiculoides, sp. n.,
- Elytra yellowish-brown. ♂: 7th dorsal segment with a minute tubercle at the middle of the posterior margin; 8th with two scarcely perceptible tubercles at the middle of the posterior margin *tuberculata* Kr., p. 325.
23. Thorax a half broader than long; broader species. ♂: 8th dorsal segment truncate or very feebly emarginate; 6th ventral segment produced, narrowed and rounded at apex *amicula* Steph., p. 326.
- Thorax a fourth or third broader than long; narrow species. 24.
24. Thorax brown, elytra brownish-yellow. ♂: 8th dorsal segment rounded and finely crenulate; 6th ventral segment rounded [p. 334.
inconspicua, sp. n.,
- Thorax black, elytra blackish-brown. ♂: 8th dorsal segment feebly arcuately emarginate; 6th ventral segment a little produced, narrowed and rounded at apex. [p. 327.
subamicula, sp. n.,

1824. *Atheta (Microdota) subluctuosa*, sp. n.

Very shining, black, the elytra sometimes pitchy-black. Antennæ black. Legs reddish-yellow. Length 1.5–2 mm.

A little narrower than *luctuosa* Rey, but of similar colour, lustre and build, at once distinguished from it by the much thinner antennæ and much more sparingly punctured thorax and elytra. Head large, a little narrower than the thorax, the eyes moderate, the disc broadly impressed in the ♂, less distinctly in the ♀, extremely finely, very sparingly punctured, finely coriaceous. Antennæ rather slender, the 3rd joint shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate twice as broad as long. Thorax about a third broader than long, very slightly narrowed behind, sometimes narrowly impressed along the middle behind, the sculpture as on the head. Elytra a little broader and about a half longer than the thorax, extremely finely, sparingly punctured, distinctly coriaceous. Abdomen parallel, very finely, rather sparingly punctured on the first three segments, much more sparingly behind.

♂: 8th dorsal segment truncate; 6th ventral segment produced and narrowed, the apex rounded.

Kashmir: Gulmarg, alt. 8000-10,000 feet. In small carcase.

1825. *Atheta (Microdota) subægra*, sp. n.

Shining, black, the elytra pitchy. Antennæ black. Legs reddish-yellow. Length 2 mm.

More robust than *subluctuosa*, with larger eyes and much stouter antennæ, which are very similar in structure to those of *ægra* Heer. Head very finely, very sparingly punctured, the ground-sculpture very feeble. Antennæ with the 4th joint transverse, the penultimate twice as broad as long. Thorax with a small fovea before the scutellum, extremely finely, sparingly punctured, the ground-sculpture feeble, less distinct than in *ægra*. Elytra as long as the thorax, extremely finely, closely punctured; ground-sculpture absent. Abdomen extremely finely punctured throughout, not very closely on the anterior segments, more closely on the 6th and 7th segments. Differs from *ægra* in the colour, much larger eyes, more obsolete sculpture of the thorax, the elytra much more closely punctured and without ground-sculpture, the abdomen more punctured.

Kumaun: Haldwani (*H. G. Champion*). Unique. British Museum.

1826. *Atheta (Microdota) sororecula*, sp. n.

Build of *subægra* but smaller (1.5 mm.) and narrower, head and thorax not so black, more pitchy, elytra brownish-yellow as in *subægra*. Antennæ shorter, black, the first three joints reddish-yellow, sculpture of the fore-parts rough. The head, at least in the ♂, is narrowly but distinctly sulcate in the middle, the thorax obsoletely and narrowly impressed along the middle line; otherwise like *subægra*.

♂: 8th dorsal segment feebly rounded; 6th ventral segment a good deal produced, slightly narrowed and broadly rounded at the apex.

Chakrata district: Kanassar, alt. 7050 feet.

1827. *Atheta (Microdota) alia*, sp. n.

Moderately shining; head black, thorax and abdomen yellowish-red, the 4th and 5th visible segments blackish; elytra brownish-yellow. Antennæ black, the first two joints and the legs reddish-yellow. Length 1.2 mm.

In colour and build, especially in the comparatively narrow head and small eyes, much like *ægra* Heer, but much smaller

and narrower, rather less shining and less sparingly punctured, the antennæ much thinner but similarly constructed. Head only slightly transverse, narrower than the thorax the eyes rather small, the disc with a very small fovea, extremely finely, sparingly punctured, very finely coriaceous. Antennæ with 3rd joint shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate twice as broad as long, the 11th as long as the 9th and 10th together. Thorax about a third broader than long, the sides straighter and more retracted behind, the posterior angles obtuse, before the scutellum with a short, narrow, longitudinal impression, extremely finely, moderately closely punctured, the ground-sculpture absent. Elytra broader and a little longer than the thorax, broader than long, very finely, closely and asperately punctured. Abdomen a little narrowed before the apex, very finely, moderately closely punctured on the first three segments, very sparingly on the others.

Chakrata district : Bodyar, alt. 8300 feet. Konain, Bindal Gadh.

1828. *Atheta (Microdota) tuberculata*.

Homalota tuberculata Kr.*, Arch. Naturg. xv, 1859, p. 32.

Moderately shining; head black, thorax dark brown, elytra yellowish-brown; abdomen pitchy-black, the base and apex obscurely yellowish-brown. Antennæ reddish-brown, the first two joints reddish. Legs yellow. Length 1.8 mm.

In build, size, colour, and antennal structure very similar to *ægra* Heer, but less shining, the thorax and elytra more closely punctured, more distinctly coriaceous. Head subquadrate, a little narrower than the thorax, the eyes moderate, the disc with a small fovea, extremely finely, very sparingly punctured, coriaceous. Antennæ with the 3rd joint shorter than 2nd, 4th to 10th gradually more transverse, the penultimate twice as broad as long. Thorax about a half broader than long, lightly longitudinally impressed before the scutellum, extremely finely, moderately closely punctured, coriaceous. Elytra about a half longer than the thorax, extremely finely, moderately closely punctured, very finely coriaceous. Abdomen subparallel, extremely finely, rather sparingly punctured on the first four visible segments, almost impunctate on the following, finely coriaceous.

♂ (*teste* Kraatz) : 7th dorsal segment with a minute tubercle at the middle of the posterior margin; 8th with two scarcely perceptible tubercles at the middle of the posterior margin.

In the type before me the 8th dorsal segment is broadly and feebly emarginate and very obsoletely crenulate (? ♀).

"Ind. Port." (*Helfer*).

1829. *Atheta* (*Microdota*) *amicula*.

Aleochara amicula Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 132; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 703 (*Homalota*); Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 194 (*Atheta*); Everts, Col. Neerl. i, 1898, p. 212; Reitt., Faun. Germ. ii, 1909, p. 56; Cam., E. M. M. xlvii, 1911, p. 224; Johansen, Danmarks Rovbiller, 1914, p. 167, fig. 61; Everts, Col. Neerl. iii, 1922, p. 98; Portevin, Encycl. Ent. A, xii, 1929, i, p. 276; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 240, and cxi, 1931, p. 435; Lindroth, Insektenfaun. Islands, Zool. Bidr. Upsala, xiii, 1931, p. 187.

Homalota jezebel Sauley, Ann. Soc. Ent. Fr. (4) iv, 1864, p. 438.

Homalota longula Heer, Faun. Helv. i, 1838-42, p. 334; Cam., E. M. M. xlix, 1913, p. 158.

Homalota meludyi Quedenf., Berl. Ent. Zeitschr. xxviii, 1884, p. 366; Fauv., Rev. d'Ent. xxi, 1902, p. 135.

Homalota parvicornis Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 333.

Aleochara picipennis Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 132.

Homalota sericea Muls. et Rey, Opusc. Ent. i, 1852, p. 41; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 295; Redtb., Faun. Austr. ed. ii, 1858, p. 140, ed. iii, 1874, p. 172; Thoms., Skand. Col. iii, 1861, p. 89, ix, 1867, p. 282; Scriba, Berl. Ent. Zeitschr. x, 1866, p. 128; Sharp, Trans. Ent. Soc. Lond. 1869, p. 225; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 347; Fowler, Col. Brit. Isl. ii, 1888, p. 120, tab. 47, fig. 2.

Homalota subsericea Woll., Cat. Col. Canar. 1864, p. 540.

Homalota terricola Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 251.

Moderately shining, black, the elytra brown, often lighter at the base. Antennæ blackish, the first two joints reddish. Legs reddish-yellow. Length 1.5-1.75 mm.

Head a little narrower than the thorax, the eyes moderate, in the ♂ with a small impression on the disc, extremely finely, sparingly punctured, finely but distinctly coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a half broader than long, the sides rounded in front, straighter and a little retracted behind, with feeble setæ, in the ♂ at least with a feeble impression behind, very finely, rather closely punctured, the ground-sculpture as on the head. Elytra a little broader and a third longer than the thorax, very finely, closely punctured. Abdomen parallel, very finely, moderately closely punctured on the first three visible segments, much more sparingly on the following. The whole insect finely, moderately closely pubescent. Tibiæ without evident setæ.

♂: 8th dorsal segment truncate or very feebly emarginate; 6th ventral segment produced, narrowed and rounded at the apex.

Simla Hills, alt. 7000-9200 feet.

Widely distributed and common in the Palearctic region. Also in North America.

1830. *Atheta (Microdota) sericella*, sp. n.

Greasy lustrous ; head and abdomen black, thorax pitchy-black, elytra dark brown. Antennæ black, the first two joints and the legs reddish-yellow. Length 1.5–1.75 mm.

In build and colour differing but little from *amicula* Steph., but less shining, the antennæ similarly constructed, but with the eyes a little larger, the thorax yet more finely and obsoletely punctured, the elytra more finely punctured, fully a third longer, and in other respects similar. The head, at least in the ♂, has a small impression on the disc, and the thorax is very finely and obsoletely impressed along the middle of the posterior half.

♂: 8th dorsal segment broadly, feebly emarginate and obsoletely crenulate, on each side with a little tooth ; 6th ventral segment slightly produced and rounded.

Chakrata district : Bodyar, alt. 8300 feet.

1831. *Atheta (Microdota) subamicula*, sp. n.

Moderately shining, black, the elytra blackish-brown. Antennæ blackish, the base reddish-yellow. Legs reddish-yellow. Length 1.5 mm.

Very like *amicula* Steph., of similar colour, lustre, and antennal structure, but a little narrower, the puncturation of the thorax yet finer, that of the elytra finer and closer and rougher. Head narrower than the thorax, eyes moderate, the disc with a small fovea, extremely finely, scarcely perceptibly, moderately closely punctured, finely coriaceous. Antennæ with 3rd joint shorter than 2nd, 4th to 10th gradually more transverse, the penultimate twice as broad as long. Thorax rather more than a third broader than long, the sides a little retracted behind, very finely impressed along the middle throughout, extremely finely, moderately closely punctured, coriaceous. Elytra a third longer and a little broader than the thorax, extremely finely, closely punctured. Abdomen parallel, very finely, moderately closely punctured on the first three segments, much more sparingly behind.

♂: 8th dorsal segment feebly arcuately emarginate ; 6th ventral segment a little produced, narrowed and rounded at apex.

Chakrata district : Kanassar, Manjgaon, Chulli Khud. Mussooree district. Ghum district : alt. 6000–9000 feet.

1832. *Atheta (Microdota) ocularis*, sp. n.

Black, moderately shining, the base of the abdomen sometimes pitchy. Antennæ black, the 1st joint yellowish-brown. Legs reddish-yellow. Length 1.5–1.75 mm.

In size, build, and antennal structure scarcely differing from *amicula* Steph., but with the elytra darker and less shining, and at once distinguished by the much larger eyes. Head broad but narrower than the thorax, the eyes large, disc with a small fovea, extremely finely, obsoletely punctured, finely coriaceous. Antennæ with the penultimate joints about twice as broad as long. Thorax sometimes obsoletely impressed before the scutellum, extremely finely, obsoletely, rather sparingly punctured, finely coriaceous. Elytra a third longer than the thorax, extremely finely, closely punctured. Abdomen on the first three segments very finely, moderately closely punctured, gradually more sparingly behind.

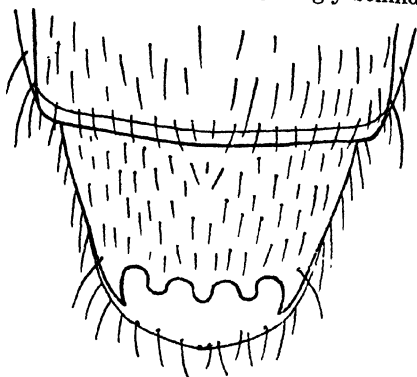


Fig. 92.—*Atheta (Microdota) ocularis*, ♂, apex of abdomen.

♂: 8th dorsal segment with three blunt teeth on the posterior margin, and on each side with a sharper and slightly longer one: 6th ventral segment a little produced and rounded.
Ghum district: Mangpu.

1833. *Atheta (Microdota) optica*, sp. n.

Only differs from *ocularis* in the yet finer and more obsolete but closer puncturation of the thorax, finer puncturation of the elytra, and the ♂ characters.

♂: 8th dorsal segment broadly truncate, scarcely perceptibly closely crenulate, on each side with a small tooth.
Mussooree district. In fungus.

1834. *Atheta (Microdota) medioeris*, sp. n.

Rather shining; head black; thorax brown; elytra yellow; abdomen black, the base and apex obscurely yellowish-brown. Antennæ black, the first two joints reddish. Legs reddish-yellow. Length 1.75 mm.

Size and build of *optica*, but differently coloured, more shining, the eyes smaller, the antennæ thinner but similarly constructed, ground-sculpture of the head feeble, the puncturation of the thorax less fine and obviously less close; ground-sculpture absent, puncturation of the elytra also distinctly less close. The head and thorax without impressions.

♂ (?): 8th dorsal segment broadly and very feebly emarginate. Mussooree district: Ringal Gad.

1835. *Atheta (Microdota) amiculoides*, sp. n.

Moderately shining, black, the elytra blackish-brown. Antennæ black, the first two joints and legs reddish-yellow. Length 1.75–2 mm.

In build, colour, lustre, and antennal structure very similar to *amicula* Steph., but with the thorax less transverse, a little less finely punctured, the elytra a little more closely punctured, the abdomen obviously more closely punctured on the first three segments. Head large, transversely subquadrate, nearly as broad as the thorax, the eyes rather large, but shorter than the post-ocular region, on the middle of the disc sometimes with a small fovea, extremely finely, scarcely perceptibly punctured, finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, the 4th and following transverse, gradually increasing in width, the penultimate fully twice as broad as long, the 11th as long as the 9th and 10th together. Thorax moderately transverse, the sides rounded in front, straighter and more retracted behind, the posterior angles obtusely rounded, before the scutellum usually with a small impression, extremely finely, rather closely punctured, finely coriaceous. Elytra a little broader and a fourth longer than the thorax, extremely finely, closely and roughly punctured, finely coriaceous. Abdomen parallel, the first three segments extremely finely, moderately closely punctured, the following gradually more sparingly punctured.

♂: 8th dorsal segment truncate; 6th ventral segment a little produced, narrowed and rounded at apex.

Kashmir: Gulmarg, alt. 8000–10,000 feet.

1836. *Atheta (Microdota) masuriensis*, sp. n.

Moderately shining; head black, thorax red, elytra brown, with the base narrowly reddish; abdomen with the first two visible segments reddish, the rest black. Antennæ black, the first three joints and legs reddish-yellow. Length 1.75 mm.

Narrower than *amiculoides* and differently coloured. Head narrower than the thorax, the eyes large, extremely finely, scarcely perceptibly punctured, finely coriaceous. Antennæ

with the 3rd joint shorter than the 2nd, 4th to 10th transverse, gradually increasing in width, the penultimate twice as broad as long, the 11th as long as the 9th and 10th together. Thorax moderately transverse, the posterior angles obtuse, before the scutellum with a scarcely visible fovea, extremely finely, rather closely punctured, finely coriaceous. Elytra a little broader and a fourth longer than the thorax, very finely, closely and roughly punctured. Abdomen a little narrowed before the apex, very finely, rather closely punctured on the first three segments, much more sparingly elsewhere.

♂: 8th dorsal segment very slightly broadly emarginate; 6th ventral segment slightly produced and broadly rounded.

Mussooree, alt. 6000 feet. Chakrata district: Chulli Khud, alt. 8000 feet, in fungus. Simla Hills. Ghum district.

1837. *Atheta (Microdota) rufonigra*, sp. n.

Very similar to *masuriensis* in colour, but a little larger (2 mm.) and more robust, not so shining, the elytra yellowish-brown and the antennæ much stouter. Head rather broad but narrower than the thorax, eyes moderate, the disc with small fovea, at the sides with fine, moderately close puncturation, impunctate along the middle, coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate more than twice as broad as long. Thorax moderately transverse, with moderately broad impression along the middle behind, the puncturation and ground-sculpture very similar to that of *amicula* Steph. Elytra only slightly longer than the thorax, very finely, closely and roughly punctured, much as in *amicula*. Abdomen parallel, very finely, rather closely punctured on the first three segments, rather more sparingly on the rest.

♂: 8th dorsal segment truncate in the middle and with three or four blunt teeth, externally on each side with a slender curved spine produced beyond the level of the dentate part and separated from it by a deep arcuate excision.

Simla Hills: Gahan, alt. 7000 feet.

1838. *Atheta (Microdota) inutilis*.

Homalota inutilis Kr.*, Arch. Naturg. xxv, 1859, p. 35; Cam., Trans. Ent. Soc. Lond. 1920, p. 394.

Parallel, moderately shining, the head black or pitchy, thorax brown, elytra yellow, the postero-external angles infuscate; abdomen with the first two visible, the posterior margin of the penultimate, and the whole of the last segments yellowish-red, the rest black. Antennæ black, the first two joints and the legs reddish-yellow. Length 1.5 mm.

Very similar in size and build to *masuriensis*, but differently coloured, the antennæ and the elytra a little shorter. Head narrower than the thorax, subquadrate, eyes rather large, vertex with a fovea in the ♂, extremely finely, scarcely perceptibly punctured, finely coriaceous. Antennæ with the 3rd joint much shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate joints twice as broad as long, the 11th as long as the 9th and 10th together. Thorax about a half broader than long, feebly and narrowly impressed along the middle in the ♂, extremely finely, rather closely punctured, finely coriaceous. Elytra a little broader and slightly longer than the thorax, finely, rather closely punctured. Abdomen parallel, the first three visible segments very finely,

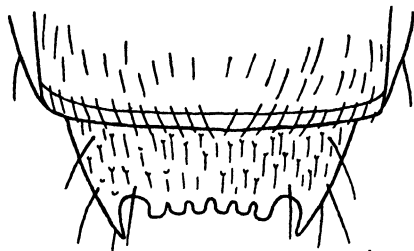


Fig. 93.—*Atheta (Microdota) inutilis*, ♂, apex of abdomen.

moderately closely punctured, the following gradually more sparingly.

♂: 8th dorsal segment truncate in the middle and with three to six feeble crenulations, on each side with a sharp tooth separated from the truncate part by a rather deep arcuate emargination.

Ceylon. India: Dehra Dun. Also in Singapore and S. China.

1839. *Atheta (Microdota) ladakiana*.

Atheta (Microdota) ladakiana Cam., Mem. Connect. Acad. Arts. and Sci. x, 1934, p. 20.

Rather shining, entirely black. Antennæ black. Legs pitchy-black, the knees and tarsi yellowish. Length 2.2 mm.

Larger, blacker, and more shining than *indubia* Shp., the head larger, the elytra longer, the thorax, elytra, and abdomen much less distinctly punctured. Head large, suborbicular, narrower than the thorax, the post-ocular region a good deal longer than the eye, practically impunctate, distinctly coriaceous. Antennæ very similar to those of *indubia*, the 3rd joint distinctly shorter than the 2nd, clavate, 4th to 10th transverse, the penultimate twice as broad as long. Thorax

about a half broader than long, the sides gently rounded, more retracted behind, the posterior angles rounded, extremely finely, very sparingly punctured, the ground-sculpture as on the head. Elytra broader, more than a third longer than the thorax, extremely finely, rather sparingly punctured, coriaceous. Abdomen a little widened towards the apex, extremely finely, very sparingly punctured on the anterior segments, almost impunctate behind, coriaceous; 8th dorsal segment truncate. The whole insect with a fine yellowish pubescence, closer on the fore-parts.

Indian Tibet : Tsak-Shang, above Tso-Moriri, alt. 15,985 feet, near a stream amongst scanty grasses, 31. viii. 32. A single specimen. British Museum.

1840. *Atheta (Microdota) scabriventris*, sp. n.

Moderately shining, black. Antennæ black. Legs brownish-yellow. Length 2 mm.

In size, build, colour, lustre, and antennal structure differing but little from *indubia* Shp., but with quite different abdominal puncturation, and that of the thorax and elytra less fine. Head transverse, rather broad, narrower than the thorax, impunctate along the middle, extremely finely, moderately closely punctured elsewhere, distinctly coriaceous. Antennæ rather short, 4th joint slightly transverse, 5th to 10th more strongly, the penultimate joints about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax transverse (7 : 5), without impression, more closely and more distinctly punctured than the head, the ground-sculpture similar. Elytra broader and longer (8 : 5) than the thorax, very finely, closely and roughly punctured, coriaceous. Abdomen finely, closely and roughly punctured, the 7th and 8th segments more strongly than the preceding. Middle and posterior tibiæ with a rather long fine seta at the middle.

♂ : 8th dorsal segment truncate, on each side with a very small tooth.

Tibet : Sapi River, alt. 15,000 feet (*H. G. Champion*).

1841. *Atheta (Microdota) subatricolor*, sp. n.

Black, greasy lustrous, the elytra brown. Antennæ black. Legs reddish-yellow. Length 1.3 mm.

Build of *mortuorum* Thoms., but the elytra a little shorter, puncturation of the head and thorax a little finer and obviously less close; 7th segment of abdomen more punctured, otherwise like *mortuorum*, and with similarly constructed antennæ. Head nearly as broad as the thorax, eyes moderate, the disc with scarcely perceptible fovea, extremely finely, moderately

closely, roughly punctured, distinctly coriaceous. Antennæ with the 3rd joint much shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate twice as broad as long, the 11th as long as the 9th and 10th together. Thorax about a third broader than long, scarcely perceptibly impressed along the middle line, the sculpture as on the head. Elytra a little broader and scarcely longer than the thorax, extremely finely, moderately closely punctured, finely coriaceous. Abdomen usually a little widened behind, finely, closely, and roughly punctured, more sparingly on the last two segments.

♂: 8th dorsal segment with two broad teeth, separated from each other by a shallow arcuate emargination, externally on each side with a slender spine separated by a rather deep arcuate emargination from the teeth.

Assam : Shugnu, alt. 3000 feet, in dung. Dehra Dun.

1842. *Atheta (Microdota) subscabra*, sp. n.

Near *subatricolor*, but more robust, with the head distinctly broader, less finely, more closely and more roughly punctured, as is the thorax also, the antennæ with the first two joints yellowish, the elytra longer, nearly a half longer than the thorax, and of a dirty yellowish colour. In other respects like *subatricolor* and with similar ♂ characters.

Siwaliks : Lachiwala. In dung.

1843. *Atheta (Microdota) subatomaria*, sp. n.

Shining, black, the elytra pitchy-black or pitchy-brown. Antennæ black. Legs reddish-yellow. Length 1.5 mm.

Very like *atomaria* Kr., but with the head narrower and the antennæ shorter and much stouter, the sculpture very similar. Head subquadrate, distinctly narrower than the thorax, the eyes moderate, the disc with a larger or smaller impression, extremely finely, rather sparingly punctured, finely coriaceous. Antennæ with the 3rd joint much shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate joints fully twice as broad as long. Thorax about a third broader than long, the sides a little retracted behind, feebly longitudinally impressed along the middle behind, extremely finely, moderately closely, obsoletely punctured, the ground-sculpture as on the head. Elytra a little broader and about a third longer than the thorax, extremely finely, moderately closely punctured, finely coriaceous. Abdomen parallel, extremely finely, rather sparingly punctured on the first three segments, yet more sparingly behind.

Mussooree district : Mossy Falls. Dehra Dun.

1844. *Atheta (Microdota) inconspicua*, sp. n.

Moderately shining; head and abdomen black, thorax brown, elytra brownish-yellow. Antennæ black, the first two joints and the legs reddish-yellow. Length 1.6 mm.

In size and build very similar to *atomaria* Kr., but less shining and of lighter coloration, the antennæ a little longer and thinner, the whole insect more closely punctured. Head large, subquadrate, a little narrower than the thorax, the eyes moderate, shorter than the post-ocular region, scarcely perceptibly punctured, very finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th to 10th transverse, increasing in width, the penultimate nearly twice as broad as long, the 11th as long as the 9th and 10th together. Thorax about a fourth broader than long, the sides only slightly retracted behind, without impression, extremely finely, rather closely punctured, finely coriaceous. Elytra a third longer than the thorax, extremely finely, closely punctured. Abdomen parallel, very finely, moderately closely punctured on the first three segments, much more sparingly behind.

♂: 8th dorsal segment rounded and finely crenulate; 6th ventral segment rounded.

♀: 8th dorsal segment broadly truncate.

Dehra Dun.

1845. *Atheta (Microdota) puerilis*, sp. n.

Shining, black, the elytra pitchy-black. Antennæ black, the base pitchy. Legs reddish-yellow. Length 1.2–1.3 mm.

Except for the shorter elytra this species has the build of *subatomaria*; the antennæ are, however, much thinner, more like those of *inquinula* Gr., but with longer terminal joint. The thorax and elytra, though extremely finely, are somewhat roughly punctured, and the latter are only slightly longer than the thorax; the abdomen is rather less sparingly punctured behind than in *subatomaria*. The head is without a fovea and the thorax has occasionally a very fine impressed median line throughout. The pubescence is coarser than in *subatomaria*.

♂: 8th dorsal segment feebly arcuately emarginate; 6th ventral segment a little produced, narrowed and rounded at apex.

Ghum district: Mangpu.

1846. *Atheta (Microdota) gracillima*, sp. n.

Of the build, colour, and lustre of *subatomaria*, but a little smaller (1.3 mm.) and yet narrower and more fragile than that species, and at once distinguished by the longer and much thinner antennæ, which are more slender than those of *lili-*

putana Bris. The puncturation of the thorax, although very fine, is not obsolete, but rough as in *liliputana*, though more sparing than in that species; the puncturation also of the elytra is rough as in the latter species but not so close. The head has a small fovea on the vertex and the thorax has sometimes a trace of impressed line in the middle behind; the abdomen is parallel and very sparingly punctured behind. From *puerilis*, which it much resembles, it is distinguished by the distinctly less fine and less close puncturation of the thorax and the short, conical 11th joint of the antennæ.

Kashmir: Gulmarg, alt. 8000–10,000 feet. In a small carcase.

1847. *Atheta* (*Microdota*) *scabrella*, sp. n.

Moderately shining, black, the elytra yellowish-brown. Antennæ black, the 1st joint pitchy. Legs reddish-yellow. Length 1.2 mm.

In build, colour, and lustre very similar to *liliputana* Bris.; the antennæ are, however, much stouter, the sculpture coarser, and the abdomen more closely punctured, especially behind. Head subquadrate, nearly as wide as the thorax, the eyes moderate, the disc with a fovea, finely, moderately closely, roughly punctured, finely coriaceous. Antennæ with the 3rd joint very short, clavate, 4th to 10th gradually more transverse, the penultimate about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, closely, finely, and roughly punctured. Elytra broader but only slightly longer than the thorax, closely, finely and asperately punctured. Abdomen parallel, finely and rather closely punctured, the last three segments only a little less closely than the preceding.

Sexual differences not apparent.

Dehra Dun. Bihar: Pusa. In dung.

1848. *Atheta* (*Microdota*) *vulgaris* Cam.

Atheta (*Microdota*) *vulgaris* Cam., Trans. Ent. Soc. Lond. 1920, p. 258.

Black, rather shining, the elytra brown or yellowish-brown. Antennæ black, the first two joints pitchy. Legs reddish-yellow. Length 1.3 mm.

Very similar to *scabrella*, but with much longer antennæ, the 5th joint only slightly transverse, the penultimate about a half broader than long, the 11th elongate, longer than the preceding two together, elytra shorter, the puncturation of the fore-parts a good deal finer but about as close; the abdomen also is more finely punctured on the first three segments and much less closely on the following.

Head suborbicular, very finely but distinctly and moderately closely asperately punctured, finely pubescent. Antennæ with the first two joints subequal, the 3rd shorter than the 2nd, the 4th as long as broad, the 5th to the 10th transverse, gradually increasing in width, the penultimate about half as broad again as long, the 11th a little longer than the 9th and 10th together. Thorax transverse, about one-third as broad again as long, the sides narrowed posteriorly, disc with a fine longitudinal channel in the middle, puncturation and pubescence very similar to that of the head. Elytra scarcely longer, but distinctly broader than the thorax, transverse, with puncturation and pubescence as on the fore-parts. Abdomen very finely and sparingly punctured anteriorly, the 6th, 7th, and 8th segments nearly impunctate. Intermediate tibiæ with distinct black seta about the middle.

♂: 8th dorsal segment truncate, 6th ventral segment a little produced, slightly narrowed and broadly rounded.

♀: 8th dorsal segment very feebly emarginate.

Dehra Dun, in dung. Also in Singapore, in dung and rotting fruit.

STICTATHETA, subgen. n.

In build somewhat resembling *Cænonica puncticollis* Kr. Head broad, the puncturation umbilicate. Temples only bordered behind. Penultimate joints of antennæ twice as broad as long. Thorax distinctly transverse, the sides with two or three setæ, the pronotal epipleura visible from the side. Mesosternal process acute, extending beyond the middle of the coxæ, these narrowly separated, and meeting the metasternal process. Elytra not emarginate postero-externally. Abdomen distinctly parallel, the first three visible segments transversely impressed at the base. Setæ of the middle and posterior tibiæ moderate.

Type, *mimetica*.

Key to the Species.

Larger (3 mm.) and broader; elytra brownish-yellow	<i>stevensi</i> , sp. n., p. 338.
Smaller (2.5 mm.) and narrower; elytra smoky-brown	<i>mimetica</i> , sp. n., p. 336.

1849. *Atheta* (*Stictatheta*) *mimetica*, sp. n.

Parallel, moderately shining, the head and abdomen black, thorax dark brown, elytra smoky-brown. Antennæ reddish-yellow, the last three or four joints infusate. Legs reddish-yellow. Length 2.5 mm.

In build and sculpture of the head much resembling *Cænonica puncticollis* Kr. Head transverse, nearly as wide as the

thorax, the eyes about as long as the post-ocular region, the temples finely bordered behind, the disc more or less flattened, closely covered with moderate umbilicate punctures; ground-sculpture absent. Antennæ a little thickened towards apex, the 3rd joint as long as the 2nd, 4th slightly longer than broad, 5th as long as broad, 6th to 10th transverse, the penultimate joints about twice as broad as long, the 11th oblong, longer than the two preceding together. Thorax a third broader than long, the sides rounded in front, straight and a little retracted behind, the posterior angles obtuse, before the scutellum bifoveate, towards the anterior angles with a fovea, closely covered on the disc with small, obsolete, very obsoletely umbilicate punctures, at the sides very finely, rather closely and simply punctured; ground-sculpture absent. Elytra a little broader and a third longer than the thorax, scarcely emarginate postero-externally, very finely, closely



Fig. 94.—*Atheta (Stictatheta) mimetica*, ♂, apex of abdomen.

and asperately punctured. Abdomen parallel, finely and closely punctured on the first three visible segments, much more sparingly on the following. The head is almost glabrous, the thorax finely pubescent, the sides with three or four moderate setæ, elytra and abdomen finely pubescent, the former with a seta at the shoulders. The middle and posterior tibiæ each with a moderate black seta.

♂: 8th dorsal segment on each side with a long, slender, incurved spine, in the middle with a plate rounded behind and separated by a broad and deep arcuate emargination from the lateral spine; 6th ventral segment broadly rounded.

♂: 8th dorsal segment with seven or eight slender spines along the middle of the posterior margin, on each side with a longer curved spine separated by an arcuate emargination from the central spines.

Kumaun: Haldwani district (*H. G. Champion*).

1850. *Atheta* (*Stictatheta*) *stevensi*, sp. n.

Moderately shining; head black; thorax dark brown; elytra brownish-yellow, infusate postero-externally; abdomen pitchy-black. Antennæ red, the base and legs reddish-yellow. Length 3 mm.

Of the build of *mimetica*, but larger and broader, the antennæ and elytra differently coloured. The head is closely covered with rather small umbilicate punctures; the antennæ are stouter than in *mimetica*, but similarly constructed; the thorax is broadly flattened along the middle, and in addition to the two large basal punctures a finer pair is situated at the anterior limit of the median impression; puncturation fine, close and superficial, but not so fine as in *mimetica*. Elytra broader and a fourth longer than the thorax, very finely, closely and roughly punctured. Abdomen finely, rather closely punctured and pubescent throughout.

♂: elytra on each side of the suture behind the scutellum with a rounded boss; 8th dorsal segment of abdomen produced in the middle as a narrow spatuliform lamella, on each side with a slender incurved spine, shorter than the lamella and separated from it by a deep arcuate emargination; 6th ventral segment produced and broadly rounded.

Darjeeling district: Gopaldhara, Rongbong Valley (*Stevens*). Unique. British Museum.

Subgenus *ATHETA* (s. str.) Ganglb.

Atheta (s. str.) Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 175; Bernh., W. Z. B. lvii, 1907, p. 396; Reitt., Faun. Germ. ii, 1909, p. 58; Johansen, Danmarks Rovbiller, 1914, p. 150; Fenyès, Gen. Ins. 173 B, 1920, p. 210; Portevin, Encycl. Ent. A, xii, 1929, i, p. 278; Scheerpp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 241; Munster, Norsk Ent. Tidskr. iii, 1932, p. 11.

Delphota Cas., Mem. Col. i, 1910, p. 17.

Hilara Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 297.

Mycota Muls. et Rey, l. c. p. 502; Johansen, Danmarks Rovbiller, 1914, p. 154.

Tetropia Muls. et Rey, l. c. p. 292; Johansen, l. c. p. 156.

Xenota Muls. et Rey, l. c. p. 397; Johansen, l. c. p. 163.

Head distinctly narrower than the thorax, the temples bordered, at least behind. Antennæ rather short, distinctly thickened towards apex, the 3rd joint as long or longer than the 2nd, the penultimate about a half or more than a half broader than long. Thorax strongly transverse, about a half broader than long, the sides with two or three moderate setæ, the pronotal epipleura visible laterally. Elytra as long or longer than the thorax, sometimes emarginate postero-externally. Abdomen subparallel, but often more or less narrowed towards the apex, the first three visible segments

transversely impressed at their bases. Mesosternal process acute, extending at least to the middle of the coxæ, these narrowly separated. Middle and posterior tibiæ each usually with a moderate seta. This subgenus is only likely to be confused with the subgenus *Dimetrota*, but in this the antennæ are usually longer and less thickened towards the apex, the thorax less transverse, with stronger lateral setæ, the abdomen usually more distinctly narrowed behind, and the tibial setæ usually more developed.

Key to the Species.

1. 4th joint of antennæ and often the 5th not transverse 2.
4th and following joints transverse 15.
2. 11th joint of antennæ reddish-yellow; thorax reddish-yellow, infuscate on the disc. ♂: 4th to 6th segments each with a small tubercle at the middle of the posterior margin; 8th triangularly narrowed in the middle, at each side with a long tooth extending beyond the median lobe..... [p. 356.
picticollis Bernh.,
- 11th joint of antennæ concolorous with the preceding; thorax concolorous or at most obscurely lighter towards the sides. 3.
3. 11th joint of antennæ as long as the preceding three together. ♂: 8th dorsal segment broadly, feebly arcuately emarginate and distinctly crenulate, on each side with a larger tooth; 6th ventral segment produced, narrowed and rounded. [p. 343.
antennalis, sp. n.,
- 11th joint of antennæ not longer than the preceding two together 4.
4. Antennæ black, at most with the 1st joint pitchy; elytra entirely or in greater part brownish-yellow 5.
Antennæ with the base more or less reddish-yellow 8.
5. Abdomen very sparingly punctured; elytra yellowish-brown *confusa*, sp. n., p. 360.
Abdomen more closely punctured; elytra yellow, the scutellary and postero-external angles usually infuscate 6.
6. Abdomen finely and closely punctured. ♂: 8th dorsal segment rounded; 6th ventral segment produced, narrowed and rounded [p. 359.
nigrolucida, sp. n.,
- Abdomen finely, moderately closely punctured..... 7.
7. Antennæ stout, the penultimate joints slightly transverse; elytra with distinct dark triangular scutellary marking and dark postero-external region. ♂: 8th dorsal segment truncate and with six or seven small crenulations, on each side with a little tooth; 6th ventral segment produced, narrowed and rounded *triangulum* Kr., p. 356.

- Antennæ slender, the penultimate joints strongly transverse; elytra not or scarcely infusate [p. 354.
luteipennis, sp. n.,
8. Entirely black. ♂: dorsal segment truncate, occasionally with four small crenulations, on each side with a little tooth. Elytra brown or brownish-yellow [p. 343.
nigrolucens, sp. n.,
9. Thorax brown or reddish-brown 9.
 Thorax black 10.
 10. Elytra uniformly brown or brownish-yellow, sometimes a little infusate postero-externally 12.
 Elytra brown, the base narrowly but not sharply yellow. ♂: 8th dorsal segment with two short blunt teeth at the middle of the posterior margin, on each side with a sharp slender spine. 11.
11. Larger (3 mm.) and less shining. ♂: 8th dorsal segment produced in the middle as a plate with rounded posterior margin and a large tubercle on each side near the lateral margin; externally with a short cultriform process *binidens* Bernh., p. 355.
 Smaller (2 mm.), very shining species. *lamellata*, sp. n., p. 353.
platystethoides Motsch.,
12. Abdomen closely punctured on the anterior segments [p. 342.
 Abdomen sparingly punctured *perplexa*, sp. n., p. 358.
 13. Very shining species; ground-sculpture indistinct 13.
 Less shining species; ground-sculpture distinct *prona* Motsch., p. 342.
 14. Last segment of abdomen reddish; build of *castanoptera* Mannerh. ♂: 8th dorsal segment narrowed, on each side with a longitudinal keel, the posterior margin nearly truncate and thickened 14.
 Last segment of abdomen concolorous; build of *crassicornis* F. ♂: 8th dorsal segment broadly, feebly emarginate, on each side with a small, scarcely prominent tooth. *bicristata*, sp. n., p. 358.
15. Thorax black or pitchy-black, sometimes with metallic reflex [p. 355.
 Thorax lighter, brown or reddish-brown. *subsericans*, sp. n.,
16. Abdomen rather closely punctured, at least on the anterior segments; elytra black, brown, or yellowish 16.
 Abdomen rather sparingly punctured 25.
17. Elytra black 17.
 Elytra brown or brownish-yellow, often darker postero-externally 22. [p. 347.
subconformis, sp. n.,
18. Larger (3.2 mm.) and more robust. Penultimate joints of antennæ three times broader than long. ♂: 8th dorsal segment truncate and finely crenulate, on each side with a triangular tooth 18.
 Smaller (2-3 mm.) less robust. Penultimate joints of antennæ much less transverse *necrophaga*, sp. n., [p. 357.
19. Broader and more convex species. 19.
 20. 20.

- Narrower and more depressed. ♂: 8th dorsal segment truncate, the sides obliquely truncate *simplex*, sp. n., p. 343.
20. ♂: 7th dorsal segment with a tubercle 21.
- ♂: 7th dorsal segment without tubercle; 8th with small angulate emargination in the middle of the posterior margin, on each side with a tooth, between this and the emargination more or less distinctly crenulate (usually two) *coriaria* Kr., p. 343.
21. Elytra more coarsely and roughly punctured; antennæ thinner. ♂: 8th dorsal segment with two stout teeth at the middle of the posterior margin, on each side with moderately long cultriform process [p. 346.]
- Elytra more finely punctured; antennæ stouter. ♂: 8th dorsal segment with four blunt teeth on the posterior margin, on each side with a short cultriform process *distinguenda*, sp. n., [p. 345.]
22. Elytra yellow, the scutellary and postero-external angles infuscate *pseudocoriaria*, sp. n., [p. 349.]
- Elytra brown or yellowish-brown *nigrituloides*, sp. n., 23.
23. Elytra dark brown. ♂: 8th dorsal segment feebly and broadly emarginate, on each side with a little tooth *subincisa*, sp. n., p. 348.
- Elytra brownish-yellow 24.
24. Head and thorax with slight metallic reflex; build of *nigritula* Gr.; thorax very finely punctured. ♂: 8th dorsal segment narrowed, the posterior margin rounded and thickened, on each side with an ear-shaped tubercle *prodita*, sp. n., p. 350.
- Head and thorax without metallic reflex; build of *sodalis* Er.; thorax finely punctured. ♂: 8th dorsal segment truncate, closely and obscurely denticulate, the outer tooth on each side a little larger [p. 348.]
25. Larger (3.5 mm.) and more robust *kotgarhensis*, sp. n.,
- Smaller (2-2.75 mm.) and narrower *ochroptera* Bernh. & 26. [Scheerp., p. 352.]
26. Abdomen black or pitchy, scarcely lighter at the base. ♂: 8th dorsal segment with two blunt teeth separated by a narrow arcuate emargination, on each side with a slightly longer cultriform process, separated by a broader arcuate emargination from the central teeth; 6th ventral segment strongly narrowed to a median slightly upturned spine [p. 351.]
- Abdomen reddish-yellow, the 5th and 6th segments black *dilutipennis* Motsch., 27.
27. Thorax finely, moderately closely punctured. ♂: 8th dorsal segment with three blunt teeth, on each side with a sharp spine *tridentata* Kr., p. 352.
- Thorax extremely finely, closely punctured. ♂: 8th dorsal segment truncate and sometimes obscurely crenulate, on each side with a small tooth *putridula* Kr., p. 347.

1851. *Athtea* (s. str.) *platystethoides*.

Homalota platystethoides Motsch.*, Bull. Soc. Nat. Mosc. xxxiv, 1861, p. 152; Cam., E. M. M. lxix, 1933, p. 219.

Very shining; head and abdomen black, thorax dark reddish-brown, elytra yellowish-brown. Antennæ black, the first three joints reddish-yellow. Legs reddish-yellow. Length 2 mm.

In the colour, build, and sparing puncturation and pubescence much resembling *ægra* Heer, but with different antennal structure and larger. Head suborbicular, almost as broad as the thorax, extremely finely and sparingly punctured, finely coriaceous. Antennæ with the 3rd joint as long as the 2nd, 4th slightly longer than broad, 5th to 10th transverse, gradually increasing in width, the penultimate moderately transverse, 11th about as long as the two preceding together. Thorax transverse (7 : 5), the sides gently rounded in front, straighter and a little retracted behind, extremely finely, rather sparingly punctured, finely coriaceous. Elytra a little longer and broader than the thorax, not emarginate at the postero-external angles, extremely finely, not very closely punctured, finely coriaceous. Abdomen a little widened behind, very finely, moderately closely punctured on the first three visible segments, almost impunctate behind.

Ceylon: Mt. Patanas. One example.

1852. *Atheta* (s. str.) *prona*.

Homalota prona Motsch.*, Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 252; Cam., E. M. M. lxix, 1933, p. 219.

Very shining; head black, thorax and abdomen pitchy-black, elytra yellowish-brown. Antennæ blackish-brown, the first three joints red. Legs reddish-yellow. Length 2.5 mm.

In build, colour and lustre very similar to *platystethoides*, but a little larger, the antennæ stouter but similarly constructed. Head extremely finely, rather sparingly punctured, indistinctly coriaceous, thorax about a third broader than long, the sides rounded, in the middle of the posterior half with a distinct sulcus, extremely finely and rather sparingly punctured, indistinctly coriaceous. Elytra a little longer and broader than the thorax, feebly emarginate at the postero-external angles, extremely finely but more closely punctured than the thorax, very finely coriaceous. Abdomen very finely and very sparingly punctured, the 7th segment with two small granules, one on each side of the middle, along the posterior margin with a row of similar ones, closely placed and more distinctly coriaceous than the preceding segments; 8th with a few small scattered granules, distinctly coriaceous, the posterior margin rounded.

"Ind. or." One example.

1853. *Atheta* (s. str.) *nigrolucens*, sp. n.

Shining, black. Antennæ black, the first two joints and legs reddish-yellow, the femora slightly infusate. Length 2.5 mm.

In build and antennal structure very similar to *nigricornis* Thoms., but much more shining and with black elytra, the eyes smaller, ground-sculpture much finer, thorax much less closely punctured, elytra and abdomen less closely, the former much less finely punctured. Head suborbicular, narrower than the thorax, the eyes shorter than the post-ocular region, extremely finely, sparingly punctured, very finely coriaceous. Antennæ only moderately stout, the 3rd joint a little longer than the 2nd, in the ♂ laterally compressed and subtriangular, 4th about as long as broad, 5th to 10th transverse, the penultimate scarcely twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, in the ♂ broadly, in the ♀ more narrowly impressed behind along the middle, very finely, rather sparingly punctured, finely coriaceous. Elytra broader and scarcely a third longer than the thorax, finely, moderately closely, asperately punctured, finely coriaceous. Abdomen a little narrowed before the apex, very finely and sparingly punctured on the first three segments, yet more sparingly on the following.

♂: 8th dorsal segment with a little tooth on each side, the margin between truncate and sometimes with four small crenulations.

Kashmir: Gulmarg, alt. 8000–10,000 feet.

1854. *Atheta* (s. str.) *antennalis*, sp. n.

Parallel, shining; head and abdomen black, thorax reddish-brown, elytra yellow. Antennæ with the first four joints reddish-yellow, the following blackish. Legs reddish-yellow. Length 3 mm.

In build resembling *nigricornis* Thoms. Head broad, narrower than the thorax, the eyes as long as the post-ocular region, very finely, moderately closely punctured, feebly coriaceous, in the ♂ with a small impression on the disc. Antennæ slender at the base, thickened towards apex, the 3rd joint as long as the 2nd, 4th as long as broad, 5th to 10th gradually more transverse, the 10th twice as broad as long, the 11th stout, elongate, oblong, as long as the preceding three together. Thorax more than a third broader than long, the sides rounded, more retracted behind, the posterior angles obtuse, in the ♂ more or less broadly impressed along the middle, very finely, moderately closely punctured, very finely coriaceous. Elytra a little broader and a third longer than the thorax, not emarginate postero-externally, finely, moderately closely, obsolete punctured. Abdomen parallel, very finely, moderately closely punctured on the first three

visible segments, much more sparingly on the following. The whole insect with fine yellow pubescence. Tibiæ without distinct setæ.

♂ : 8th dorsal segment broadly, feebly arcuately emarginate, distinctly crenulate, on each side with a larger tooth ; 6th ventral segment produced, narrowed and rounded.

♀ : 8th dorsal segment with slight arcuate emargination.

Dehra Dun. Only found at the exposed combs of Termites. Punjab : Dhelu, Mandi. W. Almora, Kumaun.

1855. *Atheta* (s. str.) *simplex*, sp. n.

Moderately shining, head and abdomen black, the apex and sometimes the base of the latter yellowish ; thorax dark brown, the elytra yellowish-brown, obscurely infusate towards the postero-external angles. Antennæ black, the first three or four joints and the legs reddish-yellow. Length 2.3 mm.

In size and build very similar to *basicornis* Rey, the antennæ similarly constructed but stouter, the eyes larger. Head broad but narrower than the thorax, the eyes longer than the post-ocular region, extremely finely, sparingly punctured, finely coriaceous. Antennæ with the 3rd joint a little shorter than the 2nd, 4th to 10th gradually increasing in width, the penultimate fully twice as broad as long, the 11th as long as the 9th and 10th together. Thorax transverse (3.5 : 2.5), the sides rounded in front, straighter and a little retracted behind, the posterior angles obtuse, sometimes with a feeble longitudinal impression in the middle of the posterior half, finely, closely and roughly punctured, finely coriaceous. Elytra broader and slightly longer than the thorax, not emarginate postero-externally, finely, closely, and more roughly punctured. Abdomen a little narrowed before the apex, the first three segments finely and rather closely punctured, very sparingly on the following.

♂ : 8th dorsal segment truncate in the middle, obliquely truncate at the sides.

Simla Hills : Gahan, alt. 7000 feet.

1856. *Atheta* (s. str.) *coriaria*.

Homalota coriaria Kr., Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 282 ; Redtb., Faun. Austr. ed. ii, 1858, p. 131, ed. iii, 1874, p. 162 ; Sharp, Trans. Ent. Soc. Lond. 1860, p. 204 ; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 474 (*Alaobia*) ; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 715 (*Atheta*) ; Fowler, Col. Brit. Isl. ii, 1888, p. 110 (*Homalota*) ; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 186 (*Atheta*) ; Everts, Col. Neerl. i, 1898, p. 217 ; Joy, E. M. M. xlii, 1906, p. 238 ; Reitt., Faun. Germ. ii, 1909, p. 60 ; Johansen, Danmarks Rovbiller, 1914, p. 159 ; Everts, Col. Neerl. iii, 1922, p. 99 ; Portevin, Encycl. Ent. A, xii, 1929, p. 282.

ECOLOGY.—Frankenberger, Cas. Cesk. Spol. Ent. vii, 1909, pp. 113–114.

australis Jek., Col. Jek. i, 1873, p. 47.

sodalis Woll., Ins. Mader. 1854, p. 554.

subcoriaria Woll., Cat. Col. Canar. 1864, p. 546; Fauv., Rev. d'Ent. xxi, 1902, p. 138.

Shining, black, the elytra yellowish- or reddish-brown. Antennæ black, the first two joints reddish or brownish-yellow. Legs reddish-yellow. Length 2–2.5 mm.

Head broad, narrower than the thorax, the eyes about as long as the post-ocular region, extremely finely, rather closely punctured, very finely coriaceous. Antennæ rather short and stout, the 2nd and 3rd joints of equal length, 4th to 10th transverse, gradually increasing in width, the penultimate nearly twice as broad as long, 11th as long as the 9th and 10th together. Thorax transverse (4.5 : 3), the sides evenly rounded, in the ♂ usually more or less broadly impressed behind in the middle, in the ♀ with a small fovea before the scutellum, very finely, moderately closely punctured, finely coriaceous. Elytra broader and a third longer than the thorax, not emarginate postero-externally, finely, somewhat asperately and rather more closely punctured than the thorax, finely coriaceous. Abdomen a little narrowed before the apex, finely, moderately closely punctured on the first three segments, gradually more sparingly behind.

♂ : 8th dorsal segment in the middle of the posterior margin with a small angulate emargination, on each side with a tooth, the margin between the tooth and central notch more or less distinctly crenulate (usually two on each side); 6th ventral segment produced, narrowed, and rounded.

Dehra Dun. Cosmopolitan. Found in vegetable débris, rotting fruit, etc.

1857. *Atheta* (s. str.) *pseudocoriaria*, sp. n.

Moderately shining, black, the elytra yellowish-brown, infuscate towards the postero-external angles. Antennæ black, the first two joints yellowish-red. Legs reddish-yellow. Length 2.4 mm.

In colour, build, and antennal structure very like *coriaria* Kr., but the thorax is more finely punctured, the ground-sculpture on it and on the head less distinct, and the ♂ characters quite different. Head rather broad, but a good deal narrower than the thorax, the eyes large, a little longer than the post-ocular region, extremely finely, rather sparingly punctured, finely coriaceous. Antennæ rather short and stout, the 2nd and 3rd joints of equal length, the latter compressed laterally and subtriangular, at least in the ♂, 4th transverse, 5th to 10th more strongly so, the penultimate joints about

twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a half broader than long, the sides gently rounded, a little more retracted behind, the posterior angles rounded, extremely finely, rather closely punctured, finely coriaceous. Elytra broader and a third longer than the thorax, not emarginate at the postero-external angles, very finely, closely, asperately punctured. Abdomen a little narrowed before the apex, finely, moderately closely punctured on the first three visible segments, gradually more sparingly behind as in *coriaria*.

♂: 7th dorsal segment with a small tubercle in the middle near the posterior margin; 8th with four blunt teeth and a short cultriform process on each side; 6th ventral segment a little produced and broadly rounded.

Nilgiri Hills (*A. K. Weld Downing*). Dehra Dun: W. Almora; Kumaun, alt. 4500 feet (*H. G. Champion*).

1858. *Atheta* (s. str.) *distinguenda*, sp. n.

Extremely like *pseudocoriaria*, of similar build, colour and size, the antennæ thinner, the 2nd and 3rd joints longer and

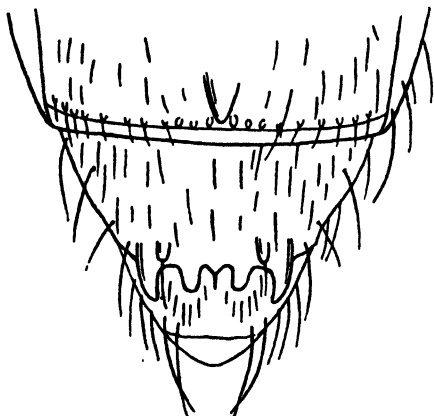


Fig. 95.—*Atheta* (s. str.) *distinguenda*, ♂, apex of abdomen.

not so stout, the penultimate about twice as broad as long, the thorax and elytra less finely punctured, and different ♂ characters.

♂: 7th dorsal segment with a small tubercle in the middle near the posterior margin; 8th with two stout teeth at the middle and on each side with a cultriform process (longer than in *pseudocoriaria*) and produced slightly beyond the level of the central teeth.

Ghum district. In fungus.

1859. *Atheta* (s. str.) *putridula*.

Homalota putridula Kr.*, Arch. Naturg. xxv, 1859, p. 35; Cam., Trans. Ent. Soc. Lond. 1920 (1921), p. 394.

Moderately shining; head pitchy-black, thorax and abdomen yellowish-red, the latter with the 3rd and 4th visible segments black; elytra yellow. Antennæ blackish, the first three joints and legs reddish-yellow. Length 2 mm.

In build very similar to *coriaria* Kr., but in all other respects quite different. Head broad but narrower than the thorax, the eyes large, longer than the post-ocular region, in the ♂ with a small superficial impression on the disc, extremely finely, sparingly punctured, finely coriaceous. Antennæ with the 3rd joint scarcely shorter than the 2nd, 4th to 10th transverse, the penultimate twice as broad as long, the 11th a little longer than the 9th and 10th together. Thorax transverse (3.5 : 2.3), the sides evenly rounded, a little retracted behind, the posterior angles rounded, scarcely perceptibly

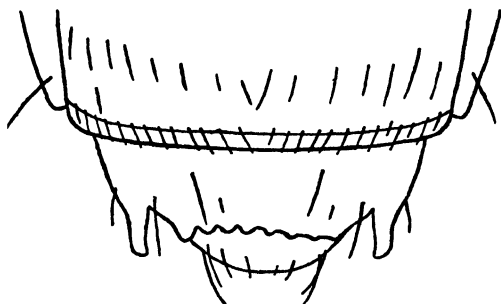


Fig. 96.—*Atheta* (s. str.) *putridula*, ♂, apex of abdomen.

impressed along the middle behind, extremely finely, very closely punctured, finely coriaceous. Elytra broader and slightly longer than the thorax, not emarginate postero-externally, very finely, closely punctured. Abdomen parallel, very finely, sparingly punctured on the first three visible segments, more sparingly behind.

♂: 8th dorsal segment truncate and sometimes obscurely crenulate, on each side with a tooth separated by a small arcuate emargination from the truncate part and scarcely produced beyond its level.

Ceylon. Also in Singapore.

1860. *Atheta* (s. str.) *subconformis*, sp. n.

Moderately shining, black. Antennæ black, the first two joints and the legs reddish-yellow. Length 2.2 mm.

Build of *gagatina* Baudi, but a little more shining, the elytra black, shorter and not emarginate postero-externally; the antennæ are very similar, but the 4th joint is distinctly transverse, the puncturation of the thorax is as fine and as close, but rougher, the ground-sculpture less marked; the elytra are only as long as the thorax, their puncturation and that of the abdomen scarcely differing from that of *gagatina*.

A single specimen, apparently ♀.

Dehra Dun. At exposed Termite's comb.

1861. *Atheta* (s. str.) *subincisa*, sp. n.

Shining, black, the elytra pitchy-black. Antennæ blackish, the first three joints and the legs reddish-yellow. Length 3 mm.

In build, colour, and lustre resembling *sodalis* Er., the antennæ very similarly constructed, but with the 3rd joint in the ♂ laterally compressed, the puncturation of the thorax finer and much more sparing, that of the elytra less close, the abdomen also more sparingly punctured. Head a good deal narrower than the thorax, the eyes scarcely as long as the post-ocular region, along the middle with a fine impressed line, extremely finely, rather sparingly punctured, finely coriaceous. Antennæ with the 3rd joint slightly longer than the 2nd, laterally compressed in the ♂, 4th slightly, 5th to 10th more strongly transverse, the penultimate joints about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides rounded in front, straighter and a little retracted behind, along the middle broadly and superficially impressed, extremely finely, not closely punctured, finely coriaceous. Elytra broader and a third longer than the thorax, emarginate postero-externally, moderately closely, finely and roughly punctured, finely coriaceous. Abdomen a little narrowed before the apex, extremely finely, rather sparingly punctured on the first three visible segments, much more sparingly on the following.

♂: 8th dorsal segment feebly and broadly emarginate, on each side with a little tooth.

Chakrata district: Manjgaon, alt. 6500 feet, under bark. Simla Hills: Gahan.

1862. *Atheta* (s. str.) *kotgarhensis*, sp. n.

Shining, black, the elytra yellowish-brown or dark brown. Antennæ black, the first two joints and the legs reddish-yellow. Length 2.5 mm.

In build, size and colour very like *sodalis* Er., but rather

more shining, the elytra shorter and scarcely emarginate, puncturation of the thorax finer and less close, that of the elytra not quite so close, that of the abdomen much more sparing, the 11th joint of the antennæ shorter. Head very finely, sparingly punctured, finely coriaceous. Antennæ rather short, the 3rd joint slightly longer than the 2nd, in the ♂ laterally compressed, 4th small, transverse, 5th to 10th more strongly, the penultimate about twice as broad as long, the 11th as long as the preceding two together. Thorax about a third broader than long, convex, the sides gently rounded and with two or three distinct setæ, before the scutellum with a very obsolete impression, very finely, somewhat asperately, not closely punctured, finely coriaceous. Elytra broader and slightly longer than the thorax, scarcely emarginate, very finely, moderately closely, asperately punctured. Abdomen a little narrowed before apex, very finely and sparingly punctured. Middle tibiæ with short, fine seta.

♂: 8th dorsal segment truncate, closely and obscurely denticulate, the external tooth on each side a little larger.

Simla Hills: Kotgarh, Matiana, Fagu. Chakrata district: Korawa Khud, alt. 7000-8000 feet.

1863. *Atheta* (s. str.) *nigrituloides*, sp. n.

Moderately shining; head and abdomen black, thorax pitchy-black, elytra yellow, very obscurely infuscate at the scutellum and postero-external angles. Antennæ black, the first two joints yellowish-red. Legs reddish-yellow. Length 2.5 mm.

In colour and lustre very similar to *nigritula* Gr., but narrower, the head distinctly narrower, the antennæ not so stout, the penultimate joints less transverse, thorax and elytra a little more finely punctured. Head rather narrow, superficially impressed on the disc, extremely finely, not very closely punctured, finely coriaceous. Antennæ with the 3rd joint longer than the 2nd, 4th slightly, the following more transverse, the penultimate about a half broader than long, 11th as long as the 9th and 10th together. Thorax about a half broader than long, finely, moderately closely punctured, finely coriaceous, the sides with two or three moderate setæ. Elytra about a third longer than the thorax, not emarginate, very finely, rather closely, scarcely roughly punctured. Abdomen very finely, rather sparingly punctured on the first three segments, yet more sparingly behind as in *nigritula*.

♂: unknown.

Chakrata district: Bodyar, alt. 8300 feet. Kumaun: W. Almora.

1864. *Atheta* (s. str.) *prodita*, sp. n.

Black, shining, the head and thorax with slight bronze reflex; elytra brownish-yellow. Antennæ black, the first two or three joints and the legs reddish-yellow. Length 2.5-3 mm.

In build and lustre very similar to *nigritula* Gr., but the head and thorax with slight metallic reflex, the puncturation much finer, that of the elytra not quite so close, abdomen less closely punctured, the antennæ a little longer and not quite so stout. Head broad, narrower than the thorax, the eyes a little longer than the post-ocular region, the disc in the ♂ with a small impression, extremely finely, sparingly punctured, finely coriaceous. Antennæ with the 3rd joint as long as the 2nd, in the ♂ laterally compressed and triangular, 4th slightly,



Fig. 97.—*Atheta* (s. str.) *prodita*, ♂, apex of abdomen.

5th to 10th more strongly transverse, the penultimate joints twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides rounded in front, straighter and a little retracted behind, the posterior angles obtuse, feebly longitudinally impressed in the middle of the posterior half, very finely, moderately closely punctured, finely coriaceous. Elytra broader and a third longer than the thorax, feebly emarginate postero-externally, finely, closely and asperately punctured. Abdomen a little narrowed before the apex, very finely, not very closely punctured on the first three segments, very sparingly on the following. Middle tibiæ with moderate seta.

♂: 8th dorsal segment narrowed and rounded, the posterior margin thickened, on each side with an ear-shaped tubercle.

Ghum district: Rongdong Valley; Tiger Hill. Simla Hills: Gahan, alt. 7000 feet.

1865. *Atheta* (s. str.) *dilutipennis*.

Homalota dilutipennis Motsch., Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 252, xxxiv, 1861, i, p. 151; Fauv., Ark. f. Zool. i, 1903, p. 243; Cam., Trans. Ent. Soc. Lond. 1920 (1921), p. 393.

Homalota destituta Waterh., Ann. Mag. Nat. Hist. (4) xxviii, 1876, p. 108; Phil. Trans. Roy. Soc. Lond. clxxiii, p. 514.

Homalota dilatipennis Gemm. et Har., Cat. Col. ii, 1868, p. 534 (err. typ.).

Homalota mucronata Kr., Arch. Naturg. xxv, 1859, p. 29.

Homalota putrescens Woll., Trans. Ent. Soc. Lond. (3), i, 1862, p. 185, and 1871, p. 292; Mars., L'Abeille, i, 1864, p. xci.

Homalota subputrescens Woll., Coll. Hesper. 1867, p. 223.

BIOLOGY.—Eichelbaum, Zeitschr. Wiss. Ins. Biol. v, 1909, p. 280, figs. 12–17.

Moderately shining; head black, thorax brownish-red, the side-margins obscurely and narrowly lighter, elytra brownish-yellow, a little infusate at the scutellum and postero-external angles, abdomen pitchy-black, the first two or three segments often obscurely reddish. Antennæ black, the first three joints and the legs reddish-yellow. Length 2–2.75 mm.

In build and colour much resembling *boletophila* Thoms., but usually smaller, the antennæ shorter, the puncturation of the fore-parts finer and less rough. Head broad, but narrower than the thorax, the eyes large, slightly longer than the post-ocular region, very finely, moderately closely punctured, finely coriaceous. Antennæ with the 2nd and 3rd joints subequal, 4th transverse, 5th to 10th more strongly so, the penultimate joints twice as broad as long, the 11th rather long, a little longer than the preceding two together. Thorax one half broader than long, convex, the sides gently rounded, the angles rounded, along the middle with obsolete impressed line, rather closely, finely, and somewhat roughly punctured, very finely coriaceous. Elytra slightly longer and broader than the thorax, finely, closely, and roughly punctured, not emarginate at the postero-external angles. Abdomen a little narrowed before the apex, the first three visible segments rather closely and finely punctured, the following more sparingly. The whole insect with a fine yellow pubescence. Lateral setæ of the thorax and tibiæ feeble.

♂: 8th dorsal segment with two blunt teeth separated by a narrow arcuate emargination, on each side with a slightly longer cultriform process, separated by a broader arcuate emargination from the central teeth; 6th ventral segment strongly narrowed into a median, slightly upturned spine.

Ceylon. India: Nilgiri Hills. Widely distributed throughout the tropics and subtropics. In decaying fruit etc.

1866. *Atheta* (s. str.) *ochroptera*.

Homalota xanthoptera Kr.*, Arch. Naturg. xxv, 1859, p. 30 (præoc.).

Atheta (s. str.) *ochroptera* Bernh. & Scheerp., Cat. Col. pt. 82, p. 647.

Shining; head black, thorax reddish-brown, elytra yellow, abdomen pitchy-black. Antennæ black, the 1st joint yellowish-red. Legs reddish-yellow. Length 3·5 mm.

In size and build very similar to *dilutipennis* Motsch., but differs in the longer and thinner antennæ, much finer and much more sparing puncturation of the head and thorax, the clear yellow, much less closely and much more finely punctured, distinctly coriaceous elytra. Head extremely finely, very sparingly punctured, distinctly coriaceous, antennæ with the 2nd and 3rd joints subequal, 4th slightly, the 5th to 10th moderately transverse. Thorax extremely finely, rather sparingly punctured, coriaceous. Elytra broader and a third longer than the thorax, not emarginate, extremely finely, not very closely punctured, distinctly coriaceous. Abdomen scarcely narrowed towards the apex, almost impunctate, the apical margin of the 7th segment sparingly and very finely granulate.

♂: unknown.

"Ind. or." without further indication. The abdomen in the type is now absent.

1867. *Atheta* (s. str.) *tridentata*.

Homalota tridentata Kr.*, Arch. Naturg. xxv, 1859, p. 51.

Atheta ceylonica Bernh. (in litt.).

Moderately shining; head black, thorax reddish-brown, elytra yellow, abdomen reddish-yellow, the 3rd to 5th visible segments more or less extensively blackish. Antennæ black, the first three joints and the legs reddish-yellow. Length 2 mm.

In build, colour and lustre much resembling *dilutipennis* Motsch., but smaller and narrower and with thinner antennæ. Head broad but narrower than the thorax, the eyes longer than the post-ocular region, extremely finely, sparingly punctured, finely coriaceous. Antennæ with the 3rd joint scarcely shorter than the 2nd, 4th to 10th transverse, the penultimate twice as broad as long, the 11th as long as the 9th and 10th together. Thorax transverse (3·5: 2·5), the sides gently rounded in front, a little straighter and slightly retracted behind, the posterior angles obtuse, before the scutellum sometimes very obsoletely impressed, very finely, rather closely, somewhat roughly punctured, finely coriaceous. Elytra a little broader

and slightly longer than the thorax, not emarginate postero-externally, as finely but rather more closely and less roughly punctured. Abdomen a little narrowed before the apex, very finely, rather closely punctured throughout.

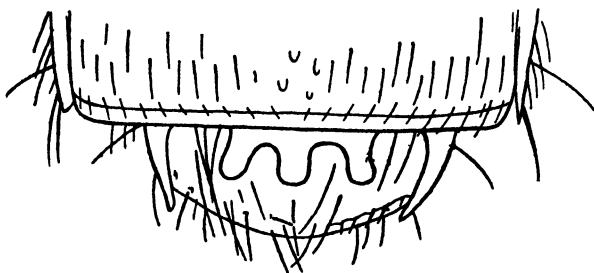


Fig. 98.—*Atheta* (s. str.) *tridentata*, ♂, apex of abdomen.

♂: 8th dorsal segment with three blunt teeth in the middle of the posterior margin, on each side with a sharp spine extending a little further backwards than the central teeth.

Ceylon: Peradeniya. India: Dehra Dun.

1868. *Atheta* (s. str.) *lamellata*, sp. n.

Moderately shining; head and abdomen black, the posterior margins of the segments except the 6th narrowly reddish;

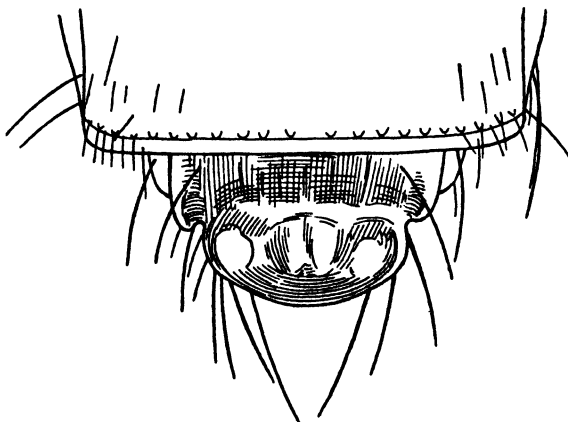


Fig. 99.—*Atheta* (s. str.) *lamellata*, ♂, apex of abdomen.

thorax reddish-brown; elytra brownish-yellow, scarcely infuscate at the postero-external angles. Antennæ black, the first four joints and the legs reddish-yellow. Length 3 mm.

Near *boletophila* Thoms., but more shining, the thorax of lighter colour, head narrower, the antennæ longer and thinner, the elytra longer, the puncturation of the head and thorax finer and not rough, that of the elytra finer. Head narrower than the thorax, the eyes about as long as the post-ocular region, extremely finely, sparingly punctured, coriaceous. Antennæ with the 3rd joint slightly longer than the 2nd, 4th slightly longer than broad, 5th to 10th transverse, gradually increasing in width, the penultimate about a half broader than long, 11th as long as the 9th and 10th together. Thorax about a half broader than long, the sides gently rounded in front, a little retracted and straighter behind, slightly transversely impressed before the scutellum and feebly longitudinally impressed along the middle behind, very finely, moderately closely punctured, coriaceous. Elytra broader and nearly a half longer than the thorax, finely, closely, roughly punctured. Abdomen slightly narrowed before the apex, the first three segments finely, not very closely punctured, the following much more sparingly.

♂: 8th dorsal segment produced in the middle as a plate with gently rounded posterior margin, on each side near its lateral margin with a large tubercle, external to the plate on each side with a short cultriform process, not produced as far back as the posterior margin of the plate.

Dehra Dun. In fungus.

1869. *Atheta* (s. str.) *luteipennis*, sp. n.

Shining, black, the elytra lemon-yellow, slightly infusate laterally. Antennæ black. Legs reddish-yellow, the femora and sometimes the tibiæ more or less infusate. Length 2.75 mm.

Build of *crassicornis* F., but blacker, the elytra lighter coloured, the antennæ thinner, puncturation of thorax finer, that of the elytra less close, the fore-parts without ground-sculpture. Head very finely, sparingly punctured. Antennæ with the 2nd and 3rd joints of equal length, 4th slightly longer than broad, 5th as long as broad, 6th to 10th gradually more transverse, the penultimate about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a half broader than long, convex, very finely, rather closely punctured. Elytra as long as but a little broader than the thorax, not emarginate at the postero-external angles, very finely, moderately closely punctured. Abdomen very finely, moderately closely punctured on the first three segments, more sparingly on the following. The specimens present no sexual characters and are probably females.

Ghum district. In moss.

1870. *Atheta* (s. str.) *subsericans*, sp. n.

Moderately shining, black, the elytra brownish-yellow, sometimes obscurely infusate towards the postero-external angles. Antennæ black, the first two joints reddish. Legs reddish-yellow. Length 3 mm.

Build of *crassicornis* F., but less shining, the elytra less brightly coloured, the antennæ longer, thorax more finely and more closely punctured, elytra as finely but more roughly punctured than in *crassicornis*, the abdomen more punctured on the penultimate segments. Head broad, but narrower than the thorax, extremely finely, moderately closely punctured, coriaceous. Antennæ with the 2nd joint shorter than the 3rd, this in the ♂ laterally compressed, 4th about as long as broad, 5th and following moderately transverse. Thorax distinctly transverse, in the ♂ with an impression in the middle of the posterior half, very finely, closely punctured, coriaceous. Elytra broader and slightly longer than the thorax, not emarginate at the postero-external angles, finely, closely and roughly punctured. Abdomen slightly narrowed behind, finely, moderately closely punctured on the first three segments, gradually more sparingly behind. Pubescence throughout fine and yellow.

♂: 8th dorsal segment broadly, feebly emarginate, on each side with a small, scarcely prominent tooth.

Simla Hills: Kotgarh. Chakrata district: Chulli Khud; Manjgaon. Kashmir: Gulmarg.

1871. *Atheta* (s. str.) *binidens*.

Atheta binidens Bernh., Ent. Blätt. xi, 1915, p. 258.

In facies very similar to *crassicornis* Gyll. and systematically next to it, but at once distinguished by the colour and the ♂ characters. Head black, thorax and elytra as far as the basal fourth and the apex of the abdomen brownish, the rest of the body reddish-yellow, the base of the brownish antennæ and the legs yellow; the passage of the yellow to brown colour of the elytra is not sharp but gradual. Head rather broad but much narrower than the thorax, moderately finely, rather closely and roughly punctured; eyes large, the short but prominent temples distinctly bordered below. Antennæ rather long and slender, the 3rd joint distinctly longer than the 2nd, the following not, the penultimate moderately transverse, seen on the flat not quite a half broader than long, the 11th shorter than the two preceding together. Thorax only a little narrower than the elytra, the sides uniformly, rather strongly rounded, before the scutellum with a transverse impression, in front of this with a fine, short, impressed line, at the sides

with some strong setæ, less finely, very closely, distinctly roughly punctured. Elytra about a fourth longer than the thorax, distinctly more coarsely closely, and roughly punctured. Abdomen moderately finely and closely punctured in front, much more sparingly behind. Length 3 mm. (the abdomen rather extended).

♂ : 8th dorsal segment in the middle of the posterior margin with two short, blunt teeth close together, at each side with a slender, sharp, inwardly curved spine, which is separated from the central teeth by a broad emargination.

Madura : Chambaganoor. Unique (ex *Bernhauer*).

1872. *Atheta* (s. str.) *picticollis*.

Atheta picticollis Bernh., Ent. Blätt. xi, 1915, p. 257.

Belongs to the subgenus *Atheta*, s. str., and very distinct by the colour and the ♂ sexual characters. In build very like *trinotata* Kr. Reddish-yellow, the head, meso- and metasterna, and penultimate abdominal segments blackish, the disc of the thorax infuscate, the elytra yellowish-brown, towards the sides and posterior margins more or less extensively brownish, the base and last joint of the dark antennæ bright reddish-yellow. Head much narrower than the thorax, extremely finely and sparingly punctured, shining; eyes rather large, with short, finely bordered temples. Antennæ moderately long, the 3rd joint almost as long as the 2nd, the two following not, the rest except the 11th distinctly transverse, the 11th longer than the preceding two together. Thorax much narrower than the elytra, a half broader than long, the sides gently and evenly rounded, the angles rounded, rather shining, very finely and moderately closely punctured, scarcely impressed along the middle. Elytra nearly a half longer than the thorax, broader than long, indistinctly emarginate postero-externally, much more strongly punctured than the fore-parts and very closely, rather dull. Abdomen shining, moderately finely and sparingly punctured on the anterior half, on the posterior only with a few scattered punctures. Length 2.5 mm.

♂ : 4th to 6th (2nd to 4th free) segments each with a small tubercle at the middle of the posterior margin; 8th triangularly narrowed and produced at the sides in two long teeth which extend beyond the middle lobe.

Madura : Chambaganoor (*Donckier*) (ex *Bernhauer*).

1873. *Atheta* (s. str.) *triangulum*.

Homalota triangulum Kr., Naturg. Ins. Deutschl. ii, 1856-58, p. 273; Redtb., Faun. Austr. ed. ii, 1858, p. 138, ed. iii, 1874, p. 171; Shp., Trans. Ent. Soc. Lond. 1869, p. 198; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873,

p. 547; Fowler, Col. Brit. Isl. ii, 1888, p. 108; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 179; Everts, Col. Neerl. i, 1898, p. 214; Reitt., Faun. Germ. ii, 1909, p. 59; Johansen, Danmarks Rovbiller, 1914, p. 149; Everts, Col. Neerl. iii, 1922, p. 98; Portevin, Encycl. Ent. A, xii, 1929, i, p. 279; Scholz, Ent. Blätt. (Berlin) xxviii, 1932, p. 184.
Dimetrota comitissa Peyerimh., L'Abeille, xxx, 1901, p. 54; Deville, l. c. 1906, p. 263; Portevin, Encycl. Ent. A, xii, 1929, i, p. 286.

BIOLOGY.—Xambeu, Ann. Soc. Linn. Lyon, xlv, 1898, pp. 187-188; id., Échange, xxv, 1909, p. 15.

Shining, black, the elytra brownish-yellow with black triangular marking at the scutellary region and the sides blackish. Antennæ black. Legs reddish-yellow, the femora darker. Length 3.5 mm.

Much like *pertyi* Heer, but the fore-parts without metallic reflex and less finely punctured, the antennæ shorter and stouter. Head narrower than the thorax, the eyes about as long as the post-ocular region, extremely finely, sparingly punctured, coriaceous. Antennæ rather stout, 3rd joint as long as 2nd, 4th fully as long as broad, 5th to 10th distinctly transverse, 11th longer than the two preceding together. Thorax a fourth broader than long, the sides rounded in front, straight and slightly retracted behind, the posterior angles obtuse, sometimes with an obsolete fovea before the scutellum, very finely, moderately closely punctured, coriaceous. Elytra a little broader and a fourth longer than the thorax, very finely, rather closely, asperately punctured, scarcely emarginate postero-externally. Abdomen a little narrowed before the apex, very finely, rather sparingly punctured on the first three segments, much more sparingly on the following.

♂: 8th dorsal segment truncate and with six or seven small crenulations, on each side with a little tooth: 6th ventral segment produced, narrowed and rounded.

♀: 8th dorsal and 6th ventral segments very feebly arcuately emarginate.

Kashmir: Gulmarg, alt. 8000-10,000 feet. Simla Hills: Gahan, alt. 7000 feet. Also in Europe and Asia Minor.

1874. *Atheta* (s. str.) *necrophaga*, sp. n.

Moderately shining; head and abdomen black, thorax brown, elytra dirty yellow, the postero-external angles a little infuscate. Antennæ black, the first two joints and legs reddish-yellow. Length 3.2 mm.

In build and colour much resembling *euryptera* Steph., but with much shorter and stouter antennæ, not quite so shining, the fore-parts more closely and roughly punctured. Head broad but narrower than the thorax, the eyes large, longer than

the post-ocular region, very finely, rather closely punctured, finely coriaceous. Antennæ short and stout, the 3rd joint scarcely shorter than the 2nd, 4th small, transverse, 5th to 10th much more strongly so, the penultimate nearly three times broader than long, the 11th as long as the preceding two together. Thorax about a half broader than long, the sides evenly rounded, a little retracted behind, the posterior angles rounded, very finely, closely, somewhat roughly punctured, finely coriaceous. Elytra a little broader and a fourth longer than the thorax, not emarginate, more closely and more roughly punctured. Abdomen parallel, very finely, moderately closely punctured on the first three segments, more sparingly behind.

♂: 8th dorsal segment truncate and finely crenulate, on each side with a triangular tooth.

Dehra Dun. In a small carcase.

1875. *Atheta* (s. str.) **perplexa**, sp. n.

Moderately shining, black, the elytra brownish-yellow, scarcely infusate externally. Antennæ black, the 1st joint reddish. Legs reddish-yellow. Length 3 mm.

Build and colour of *euryptera* Steph., but less shining, the antennæ thinner and with shorter terminal joint, the puncturation throughout closer. Head narrower than the thorax, the eye scarcely longer than the post-ocular region, extremely finely, moderately closely punctured, finely coriaceous. Antennæ with the 2nd and 3rd joints of equal length, 4th a little longer than broad, 5th to 10th gradually more transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax about a half broader than long, with a small fovea before the scutellum, very finely, closely punctured, finely coriaceous. Elytra broader and about a third longer than the thorax, scarcely emarginate, very finely, closely, asperately punctured. Abdomen a little narrowed before the apex, very finely, rather closely punctured on the first three segments, more sparingly on the following. Tibiæ without distinct setæ.

♂: unknown.

Chakrata district: Kanasar, alt. 7050 feet.

1876. *Atheta* (s. str.) **bicristata**, sp. n.

Moderately shining, black, the 8th abdominal segment reddish, elytra brownish-yellow. Antennæ black, the first three joints and legs reddish-yellow. Length 3.5 mm.

Build of *castanoptera* Mannerh., but with smaller eyes, thinner antennæ with shorter terminal joint; the puncturation of the two species is very similar. Head narrower than the thorax, the eyes as long as the post-ocular region, the disc with a small impression in the ♂, extremely finely, sparingly punctured, coriaceous. Antennæ rather slender, a little thickened towards apex, the 3rd joint longer than the 2nd, 4th a little longer than broad, 5th as long as broad, 6th to 10th moderately transverse, 11th as long as the preceding two together. Thorax a third broader than long, the sides rounded in front, straighter and a little retracted behind, the posterior angles obtuse, broadly superficially impressed behind in the middle in the ♂, finely, moderately closely, asperately punctured, coriaceous. Elytra broader and a third longer than the thorax, scarcely emarginate postero-externally, less finely, more closely punctured than the

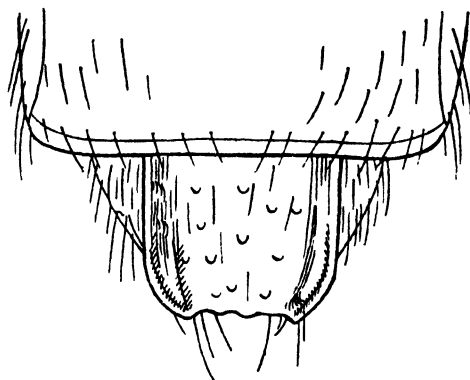


Fig. 100.—*Atheta* (s. str.) *bicristata*, ♂, apex of abdomen.

thorax, the punctures asperate. Abdomen a little narrowed before the apex, very finely, rather sparingly punctured on the first three visible segments, much more sparingly on the following.

♂: 8th dorsal segment narrowed, on each side with a strong, raised, longitudinal keel, the posterior margin nearly truncate and thickened.

♀: 8th dorsal segment feebly arcuately emarginate.

Simla Hills: Narkanda; Gahan, alt. 7000–9230 feet. In fungus.

1877. *Atheta* (s. str.) *nigrolucida*, sp. n.

Shining, black, the elytra brownish-yellow, the reflexed margin and the scutellary region narrowly infusate. Antennæ

black. Legs reddish-yellow, the femora and tibiæ infusate. Length 2-3 mm.

In build and colour very like *opacicollis* Fauv., but much more shining, the antennæ very similar in construction but a little thinner, the penultimate joints not quite so transverse, puncturation of the head and thorax very much finer, the ground-sculpture much less distinct, that of the elytra coarser and asperate, the abdomen more closely punctured. Head broadly flattened on the disc in the ♂, in the ♀ with a small fovea, moderately closely, extremely finely punctured, very finely coriaceous. Antennæ with the 2nd and 3rd joints of equal length, the 4th slightly longer than broad, 5th slightly, the following more strongly transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides without setæ, rounded in front, distinctly retracted and straighter behind, the posterior angles obtuse, rather broadly impressed in the middle of the posterior half in the ♂, more narrowly in the ♀, the puncturation much closer and less fine than on the head, the ground-sculpture similar. Elytra a third longer than the thorax, very finely, closely and asperately punctured. Abdomen a little narrowed before the apex, very finely and closely punctured, a little more sparingly on the last three segments. Tibiæ without setæ.

♂: 8th dorsal segment rounded; 6th ventral segment produced, narrowed and rounded at apex.

India: Dehra Dun. Chakrata district. Ghum. Punjab: Mandi, Dhelu, alt. 4500 feet (*H. G. Champion*). Assam: Mishmi Hills, Lohit River, 20. iii. 35 (*M. Steele*).

1878. *Atheta* (s. str.) *confusa*, sp. n.

Moderately shining, black; elytra yellowish-brown. Antennæ black, the first two joints brownish-yellow. Legs reddish-yellow. Length 3 mm.

Except for the longer elytra resembles *nigrolucida* in build and size, the antennæ similarly constructed but with the penultimate joints more transverse, puncturation of the thorax a little less fine and much less close; elytra longer than the thorax (4.75 : 3.5), less finely and less closely punctured than in *nigrolucida*, abdomen very sparingly punctured on the anterior segments, almost impunctate behind. The ground-sculpture throughout as in *nigrolucida*.

♂: unknown.

Kumaun: Tanakpur (*H. G. Champion*).

INDATHETA, subgen. n.

In facies somewhat like *Philhygra*. Head suborbicular, narrower than the thorax, eyes moderate, temples only bordered behind. Antennæ thickened towards apex, the 3rd joint as long as the 2nd, the penultimate joints rather strongly transverse. Thorax a third broader than long, the sides without setæ, the pronotal epipleura visible from the side. Mesosternal process acute, extending half the length of the coxæ, separated by a short intersternal piece from the metasternum, coxæ narrowly separated. Elytra longer than the thorax, scarcely emarginate postero-externally. Abdomen parallel, only slightly narrowed before the apex, the first three visible segments transversely impressed at their bases. Legs moderate, tibiæ without setæ. Anterior tarsi with the first three joints short, subequal, the 4th longer than the preceding together; middle with the 1st joint rather short, 2nd to 4th a little longer, subequal; posterior with the 1st joint rather long, longer than the 2nd, 2nd and 3rd of equal length, 4th a little shorter than the 3rd, 5th as long as the 1st.

1879. *Atheta* (*Indatheta*) *notabilis*, sp. n.

Shining ferruginous-red, the elytra brownish-yellow, the 5th to 7th abdominal segments black. Antennæ reddish, the first two joints and legs reddish-yellow. Length 3 mm.

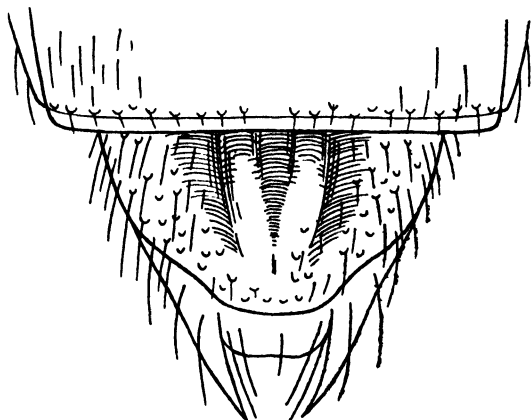


Fig. 101.—*Atheta* (*Indatheta*) *notabilis*, ♂, apex of abdomen.

In general facies very like *sinuatocrenata* Bernh., the antennæ as in *nigritula* Gr. Head suborbicular, narrower than the thorax, the eye about as long as the post-ocular region, the disc impressed in the ♂, rather closely covered with small obsolete

punctures on the disc, at the sides and towards the front with a finer and less close puncturation, very finely coriaceous. Antennæ with the 3rd joint as long as the 2nd, 4th slightly, 5th to 10th more strongly transverse, the penultimate about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides gently rounded in front, a little straighter and a little retracted behind, without setæ, the posterior angles rounded, in the ♂ along the middle broadly impressed and closely, moderately finely punctured, towards the sides more finely and more sparingly, in the ♀ without impression and with finer puncturation; ground-sculpture as on the head. Elytra a third longer and a little broader than the thorax, in the ♂ finely, closely, asperately punctured and with a round boss on each side of the suture behind the scutellum, in the ♀ more finely and less roughly punctured and without boss. Abdomen parallel, a little narrowed before the apex, practically glabrous and impunctate in the ♂, in the ♀ very finely and sparingly punctured.

♂: 3rd abdominal segment with a small transverse tubercle before the middle of the posterior margin; 4th with a larger one; 8th narrowed and rounded behind, on each side of the middle with a thick longitudinal ridge.

Dehra Dun. In *Polyporus*.

Subgenus *STETHUSA* Casey.

Stethusa Cas., Mem. Col. i, 1910, p. 4.

Athetalia Cas., l. c. p. 14.

Homalota, s. str., Muls. et Rey.

Hypatheta Fenyès, Gen. Ins. 173 B, 1920, p. 206; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 242.

Micrearota Cas., Mem. Col. i, 1910, p. 49.

Nemcta Cas., l. c. p. 56.

This subgenus differs from *Atheta*, s. str., in the longer and stouter antennæ, the penultimate joints not or only very slightly transverse or as long or slightly longer than broad.

Key to the Species.

- | | |
|--------------------------------------------------------------------------------------|------------------------------------|
| Abdomen sparingly punctured; thorax more coarsely and closely punctured on the disc. | <i>subvicina</i> , sp. n., p. 362. |
| Abdomen closely punctured; thorax finely and uniformly punctured | <i>ascendens</i> , sp. n., p. 363. |

1880. *Atheta* (*Stethusa*) *subvicina*, sp. n.

Rather shining, deep black, the elytra brownish-yellow, at the base and externally a little infuscate. Antennæ black, the 1st joint reddish. Legs reddish-yellow. Length 4 mm.

Very like *castanoptera* Mannerh. but not quite so shining, the elytra darker in colour, the 11th joint of the antennæ shorter, thorax much less finely and more closely punctured, at least in the middle, elytra less finely and more closely punctured. Head narrower than the thorax, the eyes as long as the post-ocular region, extremely finely, sparingly punctured, distinctly coriaceous. Antennæ rather long, a little thickened towards apex, 3rd joint as long as 2nd, 4th a little longer than broad, the 5th to 10th scarcely differing in length, slightly transverse, 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides rounded in front, a little retracted behind, the posterior angles rounded, broadly and superficially impressed behind in the middle in the ♂, along the middle moderately finely, closely, asperately punctured, towards the sides very finely and much less closely punctured, coriaceous. Elytra broader and a little longer than the thorax, scarcely emarginate postero-externally, finely, closely, asperately punctured, coriaceous. Abdomen parallel, very finely, moderately closely punctured on the first three visible segments, much more sparingly on the following.

♂: 3rd dorsal segment in the middle at the posterior margin with a little tubercle; 8th truncate and obscurely crenulate; 6th ventral segment produced and rounded.

Simla Hills: Gahan, alt. 7000 feet.

1881. *Atheta* (*Stethusa*) *ascendens*, sp. n.

Moderately shining, black, the elytra brownish-black. Antennæ black, the first two joints pitchy. Legs reddish-yellow, the femora a little infusate. Length 4 mm.

Size and build of *subvicina* but less shining, the elytra darker, abdomen much more closely punctured, antennæ shorter. Head very finely, sparingly punctured, distinctly coriaceous, in the ♂ with flattened disc. Antennæ with the 3rd joint a little longer than the 2nd, in the ♂ distinctly compressed, 4th slightly transverse, 5th to 10th about as long as broad, 11th as long as the 9th and 10th together. Thorax very finely, moderately closely, uniformly punctured, the ground-sculpture as on the head. Elytra a fourth longer than the thorax, the sculpture as in *subvicina*. Abdomen finely and closely punctured on the first four visible segments, less closely on the last two.

♂: 8th dorsal segment truncate, on each side with a little tooth; 6th ventral segment produced, a little narrowed, the apex broadly rounded.

N. Kumaun: Sangcha, alt. 14,500 feet (*H. G. Champion*).

Subgenus *LIOGLUTA* Thoms.

Liogluta Thoms., Öfv. Svenska Vet.-Akad. Förh. 1858, p. 35; id., Skand. Col. iii, 1861, p. 54; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 584; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 171; Bernh., W. Z. B. lvii, 1907, p. 397; Reitt., Faun. Germ. ii, 1909, p. 62; Johansen, Danmarks Rovbiller, 1914, p. 214; Fenyès, Gen. Ins. 173 B, 1920, p. 208; Gusmann, Ent. Blätt. (Berlin) xviii, 1922, p. 11; Portevin, Encycl. Ent. A, xii, 1929, i, p. 283; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 242.

Anepsiota Casey, Ann. New York Acad. Sci. vii, 1893, p. 329; Fenyès, Gen. Ins. 173 B, 1920, p. 203.

Athetota Casey, Trans. Acad. St. Louis, xvi, 1906, p. 336.

Hypnotata Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 591.

Lamiota Casey, Mem. Col. i, 1910, p. 17.

Species of moderate size, the antennæ rather long and stout, the penultimate joints not or but slightly transverse. Temples bordered behind. Thorax only slightly transverse, usually only about a fourth broader than long, the setæ feeble. Elytra not or but slightly emarginate postero-externally. Abdomen parallel, only narrowed before the apex, the first three visible segments transversely impressed at the base, usually sparingly punctured. Mesosternal process narrow, extending at least to the middle of the coxæ, these narrowly separated. Tibial setæ feeble or obsolete.

Key to the Species.

1. Abdomen finely and closely punctured throughout [p. 366.
nimborum, sp. n.,
- Abdomen much less closely punctured, especially behind 2.
2. Thorax and abdomen black, the posterior margins of the segments at most narrowly and obscurely reddish 3.
- Thorax light brown, base and apex of abdomen brownish-yellow [p. 365.
submerdaria, sp. n.,
3. Head and thorax without ground-sculpture; elytra yellow [p. 368.
philhygroides, sp. n.,
- Head and thorax more or less finely coriaceous 4.
4. Antennæ with the penultimate joints a little longer than broad 5.
- Antennæ with the penultimate joints slightly transverse; elytra yellow [p. 367.
subumbonata, sp. n.,
5. Larger (4.3 mm.) and more robust; antennæ with the 1st joint at most pitchy [p. 368.
bituberculata, sp. n.,
- Smaller (3.5-4 mm.) and narrower; antennæ with the 1st and 2nd joints reddish-yellow [p. 365.
subnitidula, sp. n.,

1882. *Atheta (Llogluta) subnitidula*, sp. n.

Shining, black, the elytra brown or yellowish-brown, the abdomen with the posterior margins of the first three visible segments narrowly reddish. Antennæ black, the first two joints and legs reddish-yellow. Length 3·5–4 mm.

In colour, build and lustre scarcely differing from *nitidula* Kr., but a little smaller, the antennæ distinctly longer and thinner, the penultimate joints as long as broad, the punctures more obsolete on the head, elsewhere scarcely differing. Head subglobose, narrower than the thorax, the eyes a little shorter than the post-ocular region, the disc in the ♂ with a feeble impression; extremely finely, sparingly punctured, more closely towards the base, very indistinctly coriaceous. Antennæ long, only slightly thickened towards the apex, the 3rd joint as long as the 2nd, 4th to 6th all longer than broad, gradually decreasing in length, 7th to 10th fully as long as broad, the 11th as long as the 9th and 10th together. Thorax a fourth broader than long, the sides rounded in front, rather straighter and slightly retracted behind, the posterior angles rounded, before the scutellum sometimes with an obsolete fovea, extremely finely, moderately closely punctured, very feebly coriaceous. Elytra a little broader and rather more than a fourth longer than the thorax, finely and more closely punctured, finely but distinctly coriaceous. Abdomen a little narrowed towards apex, very finely and very sparingly punctured on the first three visible segments, almost impunctate on the following.

♂: 8th dorsal segment very feebly arcuately emarginate, scarcely perceptibly crenulate.

♀: 8th dorsal segment broadly rounded; 6th ventral segment on each side with a tooth, in the middle narrowly truncate, the tooth separated from the truncate part by an acute emargination.

Ghum district: alt. 8000–10,000 feet; in moss. W. Almora: Kumaun (*H. G. Champion*).

1883. *Atheta (Llogluta) submerdaria*, sp. n.

Shining; head black; thorax yellowish-red or light brown; elytra yellow; abdomen with the first two segments yellowish-red, the following black, with the posterior halves of the last two segments yellow. Antennæ black, the first three joints and legs reddish-yellow. Length 3·75 mm.

Build of *subnitidula* but with broader head, differently coloured and with shorter antennæ, the penultimate joints slightly transverse, the 11th longer than the preceding two

together. Head broad, extremely finely, simply and sparingly punctured, distinctly coriaceous. Antennæ with the 3rd joint a little longer than the 2nd, 4th to 7th a little longer than broad, gradually decreasing in length, 8th to 10th slightly transverse, 11th longer than the 9th and 10th together. Thorax a fourth broader than long, the sides rounded in front, straighter and retracted behind, with two or three feeble setæ, the posterior angles obtuse, along the posterior half of the middle impressed in the ♂, in the ♀ with a fovea before the scutellum, very finely, moderately closely punctured, less coriaceous than the head. Elytra broader and a fourth longer than the thorax, feebly emarginate postero-externally, very finely, more closely punctured than the thorax, very finely coriaceous. Abdomen parallel, a little narrowed before the apex, very finely, not very closely punctured on the first three segments, yet more sparingly on the following. Tibial setæ feeble.

♂: 8th dorsal segment truncate and very finely crenulate, on each side with a little tooth; 6th ventral segment produced, narrowed and rounded.

Mussooree district: Mossy and Woodstock Falls. Chakrata district: Konain.

1884. *Atheta (Llogluta) nimborum*, sp. n.

Moderately shining, black, the elytra dark brown. Antennæ black. Legs reddish-yellow. Length 4 mm.

Of the build of *granigera* Ksw., but less shining, the elytra darker, the antennæ a little thinner, the puncturation throughout closer, and on the fore-parts less fine. Head narrower than the thorax, the disc with a small fovea, very finely, rather closely punctured, distinctly coriaceous. Antennæ with the 3rd joint slightly longer than the 2nd, 4th and 5th slightly longer than broad, 6th to 10th scarcely differing amongst themselves, as long as broad, 11th shorter than the preceding two together. Thorax transverse (5·5:4·5), the sides feebly rounded in front, straight and very slightly retracted behind, the posterior angles obtusely rounded, finely, rather closely punctured, the ground-sculpture as on the head. Elytra broader and longer (6:4·5) than the thorax, finely, somewhat roughly and more closely punctured, coriaceous. Abdomen slightly narrowed before the apex, finely and closely punctured throughout.

♂: 8th dorsal segment broadly and feebly rounded, on each side with a slightly curved spine.

N. Kumaun: Sangcha, alt. 14,500 feet (*H. G. Champion*). Unique. British Museum.

1885. *Atheta (Liogluta) subumbonata*, sp. n.

Shining, deep black, the elytra brownish-yellow with the base and sides infusate. Antennæ black, the 1st joint yellowish-brown. Legs reddish-yellow. Length 3.2-4 mm.

In build, colour and lustre differing but little from *longiuscula* Gr., the penultimate joints of the antennæ are, however, a little more transverse, the head and thorax obviously less coriaceous, the ♂ characters quite different. Head a good deal narrower than the thorax, the eyes a little longer than the post-ocular region, the disc sometimes feebly impressed, finely, sparingly punctured, the punctures obscurely umbilicate, the ground-sculpture feeble. Antennæ a little thickened towards the apex, the 3rd joint as long as the 2nd, 4th a little longer than broad, 5th as long as broad, 6th to 10th transverse, the penultimate almost a half broader than long, the 11th as

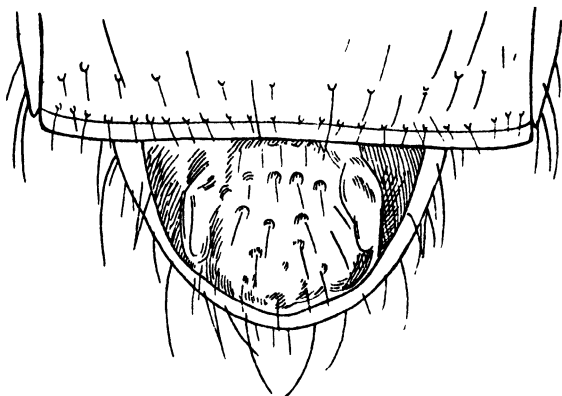


Fig. 102.—*Atheta (Liogluta) subumbonata*, ♂, apex of abdomen.

long as the 9th and 10th together. Thorax a fourth broader than long, the sides rounded in front, a little retracted and straighter behind, the posterior angles obtuse, finely, rather sparingly punctured, feebly coriaceous. Elytra a little broader and a third longer than the thorax, very finely, moderately closely punctured, finely coriaceous. Abdomen parallel, very finely and very sparingly punctured on the first three visible segments, almost impunctate on the following. The whole insect finely and sparingly pubescent.

♂: 8th dorsal segment with a strong longitudinal keel on each side, the posterior margin between gently rounded, the surface between with numerous granules; 6th ventral segment a little produced and broadly rounded.

♀: 8th dorsal segment broadly rounded.

Kashmir: Gulmarg, alt. 8000-10,000 feet. Chakrata district: Deoban, alt. 9230 feet.

1886. *Atheta* (*Liogluta*) *philhygroides*, sp. n.

Very black, shining, the elytra yellow. Antennæ black, the first three or four joints and the legs reddish-yellow. Length 3 mm.

In colour and lustre very similar to *subumbonata* but smaller, the antennæ differently coloured and more slender but of very similar structure, the thorax narrower, the head with scarcely visible, the thorax and elytra without ground-sculpture, the latter more finely punctured. Also very like *sinuatocrenata* in the colour and lustre and narrow thorax, but more robust, with longer and stouter antennæ, the thorax and elytra without trace of ground-sculpture, the 8th dorsal segment not shagreened. The abdomen is less sparingly punctured than in *subumbonata*, about as closely as in *sinuatocrenata*.

The specimens show no special sexual characters.

Dehra Dun.

1887. *Atheta* (*Liogluta*) *bituberculata*, sp. n.

Head, thorax, and abdomen shining black, elytra pitchy-black, less shining. Antennæ black, the 1st joint sometimes yellowish-brown. Legs reddish-yellow. Length 4.3 mm.

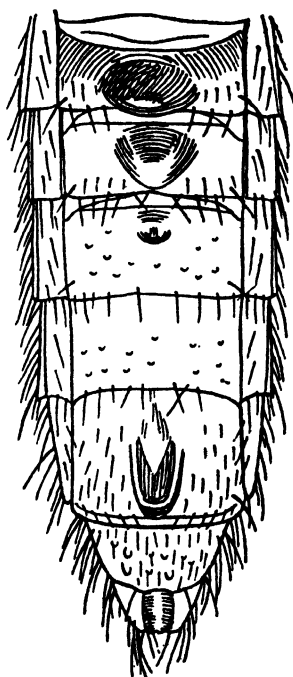


Fig. 103.—*Atheta* (*Liogluta*) *bituberculata*, ♂, abdomen.

Head rather small, suborbicular, with fine flat, superficial punctures, very finely coriaceous, in the ♂ lightly impressed on the disc. Antennæ long, a little thickened towards apex, the 3rd joint slightly longer than the 2nd, 4th to 8th longer than broad, decreasing in length, the 9th and 10th fully as long as broad, the 11th as long as the two preceding together. Thorax slightly transverse (3 : 2.5), the sides gently rounded, a little more retracted behind, finely, moderately closely punctured; ground-sculpture absent. Elytra a little broader and very slightly longer than the thorax, finely, closely and roughly punctured. Abdomen a little narrowed before the apex, very finely and very sparingly punctured on the first three visible segments, practically impunctate behind. Foreparts with a fine, moderately close, depressed pubescence.

♂ : 3rd dorsal segment at the middle of the posterior margin with a large round tubercle; 4th with similar tubercle in the middle; 5th rarely with a much smaller one; 7th with a large flat U-shaped tubercle in the middle near the posterior margin; 8th with a few scattered granules, the posterior margin rounded.

W. Almora : Sunderdhunga Valley, alt. 8000-12,000 feet (*H. G. Champion*).

Subgenus *DIMETROTA* Muls. et Rey.

- Dimetrota* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 401; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 164; Bernh., W. Z. B. lvi, 1907, p. 394; Reitt., Faun. Germ. ii, 1909, p. 68; Johansen, Danmarks Rovbiller, 1914, p. 136; Fenyès, Gen. Ins. 173 B, 1920, p. 203; Munster, Norsk Ent. Tidskr. ii, 1925-30, p. 12; Scheerp., Kol. Rundsch. xii, 1926, p. 145; Portevin, Encycl. Ent. A, xii, 1929, i, p. 284; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 244.
- Arisota* Cas., Mem. Col. i, 1910, p. 133; Fenyès, Gen. Ins. 173 B, 1920, p. 218; Hatch, Pap. Michigan Acad. Sci. iv, 1924, p. 564.
- Dalotia* Cas., Mem. Col. i, 1910, p. 106.
- Dimetrotina* Cas., Mem. Col. ii, 1911, p. 143.

Head narrower than the thorax, temples completely bordered below. Antennæ usually not much thickened towards the apex, the penultimate joints not or but slightly transverse (except in *nilgiriensis* Fauv.), the 3rd joint as long as the 2nd. Thorax moderately transverse, the sides usually strongly ciliate, the epipleura visible from the side. Mesosternal process narrow and pointed, extending beyond the middle of the coxæ, these contiguous or very little separated. Abdomen usually somewhat narrowed behind, the first three dorsal segments impressed transversely at the bases, the sides setiferous. Middle and posterior tibiæ usually with well-developed setæ. Distinguished from *Atheta*, s. str., by the less transverse thorax, more pointed abdomen, and usually less thickened antennæ and more developed thoracic and tibial setæ.

Key to the Species.

1. Thorax reddish-brown 2.
Thorax black, sometimes with metallic reflex..... 6.
2. 4th joint of antennæ much longer than broad [p. 384.
4th joint of antennæ not or but slightly longer than broad..... 3.
quadraticollis, sp. n.,
3. First two visible segments of the abdomen reddish..... 4.
First two segments concolorous with the rest..... 5.
4. Penultimate joints of antennæ as long as broad; elytra nearly half as long again as the thorax [p. 377.
Penultimate joints of antennæ slightly but distinctly transverse; elytra a third longer than the thorax *motschulskyana* Bernh.,
quadridens, sp. n., p. 381.
5. Elytra as long as the thorax; 4th to 9th joints of antennæ transverse [p. 377.
Elytra a third longer than the thorax; 4th and following joints about as long as broad *testaceipennis* Motsch.,
subputrida, sp. n., p. 375.
6. Elytra black or dark brown 7.
Elytra yellow or yellowish-brown..... 13.
7. Larger (3-4 mm.) 8.
Smaller (2 mm.)..... 12.
8. Antennæ longer, the 4th joint longer than broad, the penultimate moderately transverse 9.
Antennæ shorter, the 4th and following joints strongly transverse 11.
9. Abdomen very finely and closely punctured..... *unicolor*, sp. n., p. 374.
Abdomen much less closely punctured . 10.
10. Larger (3.5 mm.); tibie reddish-yellow; abdomen finely punctured *nigrans*, sp. n., p. 372.
Smaller (3 mm.); tibie pitchy; abdomen less finely, roughly punctured *associata*, sp. n., p. 374.
11. More robust; greasy lustrous, fore-parts more roughly punctured *sapiana*, sp. n., p. 371.
Narrower, shining, fore-parts less roughly punctured *suballocera*, sp. n., p. 374.
12. Penultimate joints of antennæ twice as broad as long *umbra*, sp. n., p. 382.
Penultimate joints of antennæ a half broader than long..... *confinis*, sp. n., p. 383.
13. Head and thorax without trace of ground-sculpture *politissima*, sp. n., p. 380.
Head and thorax distinctly coriaceous . 14.
14. Antennæ with the 4th and 5th joints distinctly longer than broad 15.
Antennæ with the 4th and 5th joints not or scarcely longer than broad 18.
15. Larger (4 mm.); penultimate joints of antennæ slightly transverse 16.
Smaller (2.5-3 mm.) 17.
16. Abdomen closely punctured *attivagans*, sp. n., p. 376.
Abdomen sparingly punctured *discors*, sp. n., p. 376.

17. First three or four joints of antennæ clear reddish-yellow, the penultimate distinctly transverse; thorax roughly punctured *adjacens*, sp. n., p. 380
- First two joints of antennæ reddish, the penultimate scarcely transverse; thorax not roughly punctured *furtiva*, sp. n., p. 378.
18. Antennæ entirely black 19.
- Antennæ with lighter base 20.
19. Larger (3-3.5 mm.); antennæ longer, the penultimate joints slightly transverse; head and thorax more coarsely punctured *piceata* Schub., p. 372.
- Smaller (2-2.5 mm.); antennæ shorter, the penultimate joints distinctly transverse; head and thorax rather finely punctured *sublævana*, sp. n., p. 379.
20. Antennæ short, the 4th to 10th joints strongly transverse *nilgiriensis* Fauv., p. 375.
- Antennæ longer, the 4th to 10th joints less transverse 21.
21. Larger (2.5 mm.); head and thorax with metallic reflex; elytra transverse 22.
- Smaller (2 mm.); head and thorax without metallic reflex; elytra as long as broad *sulcicollis*, sp. n., p. 383.
22. More shining, less coriaceous; fore-parts less closely punctured; 1st joint of antennæ reddish-yellow *derivata*, sp. n., p. 382.
- Less shining, more coriaceous; fore-parts more closely punctured; 1st and 2nd joints of antennæ reddish-yellow *contigua*, sp. n., p. 379.

1888. *Atheta* (*Dimetrota*) *sapiana*, sp. n.

Fore-parts black, greasy lustrous; abdomen black, more shining. Antennæ black. Legs yellowish-brown, tarsi reddish-yellow. Length 3.5-4 mm.

In build and colour much resembling *contristata* Kr., but less shining, the fore-parts less finely, more closely and roughly punctured, more strongly coriaceous, abdomen more punctured, antennæ shorter, the penultimate joints distinctly transverse. Head broad, narrower than the thorax, very finely, sparingly punctured, strongly coriaceous. Antennæ short, the 2nd and 3rd joints of equal length, 4th as long as broad, 5th to 10th gradually more transverse, the penultimate a half broader than long. Thorax nearly a third broader than long, sometimes with an obsolete fovea or line before the scutellum, the sides with three or four setæ, finely, rather closely and roughly punctured, strongly coriaceous. Elytra a half longer than the thorax, the puncturation similar but

closer, coriaceous. Abdomen finely, rather sparingly punctured on the first three visible segments, more sparingly on the following. Setæ of the middle and posterior tibiæ rather fine but long.

♂: 8th dorsal segment truncate and crenulate on each side, with a larger tooth; 6th ventral segment a little produced, narrowed and rounded at apex.

Tibet: Sapi River, alt. 15,000 feet (*H. G. Champion*).

1889. *Atheta (Dimetrota) piceata*.

Atheta (Metaria) piceata Schub.*. D. E. Z. 1906. p. 378.

Black, shining, the head and thorax with slight greenish metallic reflex; elytra brownish-yellow, the scutellary region, reflexed sides, and postero-external angles infuscate. Antennæ black. Legs reddish-yellow, the femora a little infuscate. Length 3-3.5 mm.

In size, colour and build much resembling *picipennis* Mannerh. but more shining, antennæ stouter, thorax and elytra less closely punctured. Head narrower than the thorax, eyes rather large but not prominent, the disc slightly impressed in the ♂, moderately finely, rather closely, asperately punctured, finely coriaceous. Antennæ with the 3rd joint a little longer than the 2nd, 4th and 5th about as long as broad, 6th to 10th a little transverse, differing but little amongst themselves, the 11th longer than the 9th and 10th together. Thorax about a third broader than long, the sides slightly rounded in front, slightly retracted behind, setiferous, the posterior angles rounded, convex, the sculpture very similar to that of the head. Elytra broader and a third longer than the thorax, the puncturation very similar but closer. Abdomen a little narrowed before the apex, very finely, rather sparingly punctured on the first three visible segments, more sparingly behind. Tibial setæ well developed.

♂: 8th dorsal segment with a few small granules, its posterior border feebly emarginate.

Kashmir: Songam (*Rost*). Chakrata district: Deoban, alt. 9330 feet. In dung.

Although placed in the subgenus *Metaxyia* by Schubert there is little doubt that it belongs to the subgenus *Dimetrota*.

1890. *Atheta (Dimetrota) nigrans*, sp. n.

Rather shining, very black. Antennæ black. Femora brown, tibiæ and tarsi reddish-yellow, the former more or less infuscate. Length 3.5 mm.

Build of *subrugosa* Ksw. but a little larger, blacker and more shining, the antennæ stouter, the penultimate joints more transverse, head and thorax more finely and a good deal less closely punctured, elytra more finely and not quite so closely punctured, abdomen more sparingly punctured on the anterior segments. Head broad, but narrower than the thorax, the eyes a little longer than the post-ocular region, extremely finely, sparingly punctured, distinctly coriaceous. Antennæ with the 2nd and 3rd joints of equal length, 4th a little longer than broad, 5th as long as broad, 6th to 10th transverse, the penultimate about a half broader than long, 11th as long as

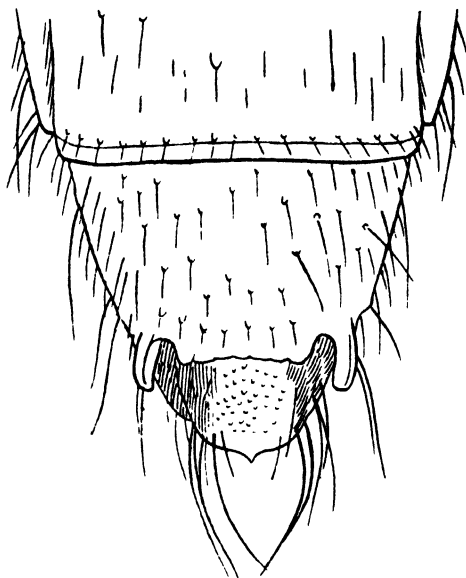


Fig. 104.—*Atheta (Dimetrota) nigrans*, ♂, apex of abdomen.

the 9th and 10th together. Thorax a third broader than long, very finely, not very closely punctured, the ground-sculpture as on the head. Elytra a fourth longer than the thorax, less finely, much more closely and asperately punctured, coriaceous. Abdomen a little narrowed behind, finely, rather sparingly punctured on the first three segments, much more sparingly behind. Tibial setæ rather long.

♂: 8th dorsal segment with median truncate plate, on each side with a strong cultriform process, separated from the plate by a narrow arcuate emargination and extending a little beyond its level.

Kashmir: Gulmarg, alt. 8000–10,000 feet.

1891. *Atheta (Dimetrota) associata*, sp. n.

Rather shining, black. Antennæ black. Legs pitchy, tarsi reddish-yellow. Length 3 mm.

In build, colour and lustre resembling *nigrans*, but smaller and less robust, the tibiæ darker, the antennæ shorter and a little thinner but similarly constructed, the fore-parts a little less finely and more roughly punctured, the abdomen obviously less finely and more closely and roughly punctured, the posterior segments only a little less closely than the anterior. Tibial setæ similar.

♂ (?): 8th dorsal segment feebly and broadly emarginate.

Kashmir: Gulmarg, alt. 8000–10,000 feet. In carrion.

1892. *Atheta (Dimetrota) unicolor*, sp. n.

Distinguished from both *nigrans* and *associata* by the much more closely and finely punctured abdomen; from the former by the smaller size and more closely punctured fore-parts, from the latter by the finer and more closely but not roughly punctured abdomen.

♂: 8th dorsal segment truncate.

Kashmir: Gulmarg. In dung.

1893. *Atheta (Dimetrota) suballocera*, sp. n.

Black, shining. Antennæ black. Legs pitchy, the knees and tarsi reddish-yellow. Length 3–3.5 mm.

Near *allocera* Epp., but blacker, more shining and without metallic reflex, the penultimate joints of the antennæ shorter and so more transverse. Head broad, narrower than the thorax, the eyes about as long as the post-ocular region, the disc sometimes with a small impression, very finely, sparingly punctured, the punctures somewhat asperate, distinctly coriaceous. Antennæ rather short, distinctly thickened towards apex, the 3rd joint as long as the 2nd, 4th as long as broad, 5th to 10th transverse, the penultimate fully twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides rounded in front, a little straighter and a little retracted behind, the posterior angles obtuse, before the scutellum with a small impression, more closely and a little more strongly punctured than the head, the punctures and ground-sculpture of similar character. Elytra broader and a third longer than the thorax, finely, rather closely, asperately punctured, finely coriaceous. Abdomen a little narrowed before the apex, very finely, sparingly punctured on the first three segments, much more sparingly on the following. Tibial setæ fine, rather long.

♂ : 8th dorsal segment truncate and with five or six crenulations, on each side with a larger tooth.

Kashmir : Gulmarg, alt. 8000–10,000 feet.

1894. *Atheta (Dimetrota) subputrida*, sp. n.

Shining ; head and abdomen black, thorax brown, elytra brownish-yellow. Antennæ black, the 1st or 1st and 2nd joints and the legs reddish-yellow. Length 2.5 mm.

In build much resembling *putrida* Kr., but narrower, the antennæ thinner and shorter, puncturation of the fore-parts finer, that of the abdomen distinctly coarser and closer, in colour more like *livida* Muls. et Rey. Head very finely, rather sparingly and not roughly punctured, coriaceous, on the disc with a small fovea at least in the ♂. Antennæ with the 3rd joint as long as the 2nd, 4th to 8th joints about as long as broad, 9th and 10th very slightly transverse, 11th as long as the two preceding together. Thorax about a third broader than long, very finely, rather closely but not asperately punctured, finely coriaceous, the setæ moderate. Elytra broader and a third longer than the thorax, very finely, somewhat asperately and closely punctured. Abdomen a little narrowed towards the apex, finely, rather closely and roughly punctured on the first three visible segments, gradually more sparingly on the following. Tibial setæ rather fine.

♂ : 8th dorsal segment with the posterior margin broadly arcuately emarginate and furnished with fine, short, closely placed spines ; 6th ventral segment a little produced and truncate.

♀ : 8th dorsal segment arcuately emarginate ; 6th ventral segment a little produced, narrowed and rounded.

Assam : Shugnu, alt. 8000 feet. In dung.

1895. *Atheta (Dimetrota) nilgiriensis*.

Atheta nilgiriensis Fauv.*, Rev. d'Ent. xxiii, 1904, p. 62.

Moderately shining black, the head and thorax with slight greenish-bronze reflex ; elytra brownish-yellow with coppery reflex. Antennæ black, the first two joints yellowish-brown. Legs reddish-yellow. Length 2–2.5 mm.

In build somewhat like *putrida* Kr., but with much shorter elytra. Head narrower than the thorax, strongly coriaceous, scarcely perceptibly punctured, the eyes longer than the post-ocular region. Antennæ short and stout, the 3rd joint as long as the 2nd, 4th to 10th strongly transverse, the penultimate twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides rounded in front, straighter and distinctly retracted behind, the posterior angles

rounded, before the scutellum with a small obsolete fovea, strongly coriaceous, scarcely perceptibly punctured. Elytra broader and a fourth longer than the thorax, strongly transverse, not emarginate postero-externally, very finely, closely punctured, very finely and indistinctly coriaceous. Abdomen a little narrowed before the apex, very finely and very sparingly punctured.

♂: 8th dorsal segment truncate and very obscurely crenulate, on each side with a short ridge.

Nilgiri Hills.

1896. **Atheta (Dimetrota) discors**, sp. n.

Shining, black, the head and thorax with slight bronze reflex, the elytra brownish-yellow, scarcely infusate at the scutellum and postero-external angles. Antennæ black, the first three joints and legs reddish-yellow. Length 4 mm.

In the narrow thorax with gently rounded sides resembling *livida* Rey, but in all other respects different. Head broad, a little narrower than the thorax, very finely, rather sparingly, asperately punctured, coriaceous. Antennæ rather long, a little thickened towards apex, the 3rd joint as long as the 2nd, 4th to 6th longer than broad, decreasing in length, 7th to 10th slightly transverse, 11th as long as the 9th and 10th together. Thorax a fourth broader than long, the sides gently rounded, feebly impressed along the middle in the posterior half, rather closely, moderately finely, asperately punctured, coriaceous. Elytra broader and about a half longer than the thorax, finely, closely, asperately punctured, finely coriaceous. Abdomen a little narrowed towards the apex, finely, rather sparingly punctured on the first three segments, much more sparingly on the following. Tibial setæ weak.

♂: 8th dorsal segment feebly arcuately emarginate, on each side with a very small keel.

Ghum district. In fungus.

1897. **Atheta (Dimetrota) altivagans**, sp. n.

Fore-parts greasy lustrous, head and thorax black; elytra dark brown or reddish-brown; abdomen more shining, black. Antennæ reddish-brown, the first two joints yellow or brownish-yellow. Legs reddish-yellow. Length 3.5-4 mm.

Build of *discors*, the fore-parts more closely and more roughly punctured, abdomen much more closely punctured, antennæ with the 4th and 5th joints a little longer than broad. Head finely, moderately closely, roughly punctured, distinctly coriaceous. Antennæ with the 3rd joint a little longer than the 2nd and in the ♂ laterally compressed, 4th to 6th a little longer than broad, decreasing in length, 7th to 10th moderately

transverse, 11th a little longer than the 9th and 10th together. Thorax transverse (5.5 : 4), in the posterior half with a fine impressed median line, the puncturation fine and rough, much closer than on the head, the ground-sculpture similar, the lateral setæ feeble. Elytra about a half longer than the thorax, very finely, closely and roughly punctured, finely coriaceous. Abdomen finely and rather closely punctured on the first three visible segments, gradually more sparingly on the following. Tibial setæ feeble.

♂: 8th dorsal segment truncate and usually obscurely crenulate, on each side with a short ridge.

N. Kumaun : Sangcha, alt. 14,500 feet (*H. G. Champion*).

1898. *Atheta* (*Dimetrota*) *motschulskyiana*.

Atheta (s. str.) *motschulskyiana* Bernh. & Scheerp., Cat. Col. pt. 82, p. 646.

Homalota microcephala Motsch.*, Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 256 (præoc.) ; Cam., E. M. M. lxix, 1933, p. 219

Moderately shining ; head black, thorax brown, elytra yellowish-brown, abdomen black, the first two visible segments, the posterior margins of the 3rd and 5th, and the whole of the 6th reddish. Antennæ black, the first four joints reddish. Legs reddish-yellow. Length 3 mm.

In colour and antennal structure very similar to *livida* Rey, but with longer elytra, these and the thorax more roughly punctured, the eyes larger. Head narrower than the thorax, finely coriaceous and with a few small asperate punctures. Antennæ with the 2nd and 3rd joints of equal length, 4th and 5th slightly longer than broad, the following about as long as broad, the 11th as long as the preceding two together, the pubescence rather long. Thorax about a third broader than long, the sides gently rounded in front, straighter and a little retracted behind, closely, finely but roughly punctured, more sparingly towards the sides, these, with two or three setæ, coriaceous. Elytra nearly a half longer than the thorax, closely, finely and roughly punctured. Abdomen very finely, moderately closely punctured on the first two visible segments, the 3rd much more sparingly, the following almost impunctate.

The two specimens show no sexual differences and are probably females.

“Ind. or.,” without further indication.

1899. *Atheta* (*Dimetrota*) *testaceipennis*

Homalota testaceipennis Motsch.*, Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 251 ; Cam., E. M. M. lxix, 1933, p. 219.

Shining ; head and abdomen black, the posterior margins of the segments narrowly reddish ; thorax pitchy-brown,

elytra yellow. Antennæ with the first three joints reddish-yellow, 4th to 9th black, the rest wanting. Legs reddish-yellow. Length 3 mm.

Differs from *motschulskyiana* in the shorter and more brightly coloured elytra, the transverse intermediate joints of the antennæ and much finer, not asperate and more sparing puncturation of the fore-parts. Head and thorax extremely finely, obsoletely, rather closely but not roughly punctured, feebly coriaceous, the latter slightly transverse and with a small obsolete fovea before the scutellum. Elytra as long as the thorax, transverse, very finely, moderately closely punctured. Abdomen very finely, moderately closely punctured on the anterior segments, much more sparingly behind. Middle tibiæ with distinct black seta about the middle, the posterior with a shorter one.

♂: 7th dorsal segment with a small tubercle in the middle near the posterior margin; 8th arcuately emarginate in its entire width.

"Ind. or.," without further indication. One specimen.

1900. *Atheta (Dimetrota) furtiva*, sp. n.

Shining, black, the head and thorax with distinct greenish-bronze reflex; elytra yellowish-brown. Antennæ black, the first two joints reddish. Legs reddish-yellow. Length 2.5 mm.

In size and build resembling *lævana* Muls. et Rey, but with the head and thorax more finely, more sparingly and scarcely roughly punctured, the elytra also less roughly punctured, the abdomen obviously more finely punctured, the antennæ more slender. Head narrower than the thorax, very finely, moderately closely punctured, finely coriaceous. Antennæ rather slender, the 3rd joint as long as the 2nd, 4th to 7th longer than broad, gradually decreasing in length, the 8th to 10th about as long as broad or very slightly transverse, the 11th as long as the two preceding together. Thorax a third broader than long, the sides rounded in front, a little straighter and retracted behind, the setæ feeble, the posterior angles obtuse, before the scutellum with a fovea, very finely, moderately closely, scarcely roughly punctured, finely coriaceous. Elytra broader and a third longer than the thorax, scarcely emarginate, very finely, closely and somewhat asperately punctured. Abdomen narrowed towards the apex, very finely, moderately closely punctured on the first three segments, much more sparingly on the following. Tibial setæ rather feeble.

♂: 8th dorsal segment broadly truncate, on each side with a very small tooth.

Ghum district. Chakrata district: Manjgaon. Mussooree district: Mossy Falls.

1901. *Atheta (Dimetrota) sublævana*, sp. n.

Shining, black, the head and thorax with greenish-bronze reflex; elytra brownish-yellow, slightly infusate at the scutellum and postero-external angles. Antennæ black. Legs reddish-yellow, the femora a little darker. Length 2.5–3 mm.

Very similar to *lævana* Muls. et Rey, of the same build and colour, but with the fore-parts much more finely and less roughly punctured, the antennæ very similar. Head narrower than the thorax, the eyes a good deal longer than the post-ocular region, the disc with a small impression in the ♂, very finely, rather sparingly, scarcely asperately punctured, distinctly coriaceous. Antennæ a little thickened towards apex, the 3rd joint as long as the 2nd, 4th about as long as broad, 5th slightly longer than broad and a little thicker than the 4th, the following transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax a third broader than long, the sides rounded in front, straighter and a little retracted behind, the posterior angles obtuse, before the scutellum usually with a small fovea, finely, moderately closely punctured, coriaceous, the sides with three moderate setæ. Elytra a little broader and a third longer than the thorax, not emarginate, finely, rather closely punctured, the punctures finely asperate, coriaceous. Abdomen a little narrowed behind, the first three visible segments very finely, moderately closely punctured, the following much more sparingly. Setæ of middle tibiæ moderate, on the posterior feeble.

♂: 8th dorsal segment feebly tri-emarginate, the central emargination arcuate and broader than the lateral, which externally are limited by a more or less distinct tooth; 6th ventral segment a little produced, narrowed and rounded behind.

United Provinces: Dehra Dun. Mussooree district. Allahabad, Jhusi. Assam: Naga Hills. In dung.

1902. *Atheta (Dimetrota) contigua*, sp. n.

Moderately shining, black, the head and thorax with slight metallic reflex, the elytra brownish-yellow. Antennæ black, the first two joints and the legs reddish-yellow. Length 2.5 mm.

Build of *sublævana*, but less shining, strongly coriaceous, the fore-parts less finely and more closely punctured, the abdomen as in *sublævana*. The antennæ a little stouter than in that species, the 4th joint a little longer than broad, the 5th as long as broad, the following transverse, the penultimate a half broader than long.

♂: 8th dorsal segment truncate, on each side with a fine, short keel, in the middle with a slight notch; 6th ventral segment a little produced, narrowed and rounded.

Dehra Dun. Mussooree district: Mossy Falls. Chakrata district: Binal Gad. In dung.

1903. *Atheta (Dimetrota) politissima*, sp. n.

Very shining, black, the elytra clear yellow. Antennæ black, the 1st joint brownish-yellow. Legs reddish-yellow. Length 2.5 mm.

Of the size and build of *sublævana*, but much more shining, the thorax and elytra less closely punctured and the fore-parts without ground-sculpture; the antennæ scarcely differ in structure. Head narrowly sulcate on the disc, finely, moderately closely, subasperately punctured at the base and sides, smooth along the middle. Thorax a third broader than long, sometimes with a small fovea before the scutellum, the sides with two or three long setæ, the puncturation as on the head, closer on the disc, more sparing towards the sides. Elytra a third longer than the thorax, finely, only moderately closely and scarcely asperately punctured. Abdomen parallel, finely and closely punctured, a little more sparingly on the last two or three segments; ground-sculpture absent. Middle and posterior tibiæ each with two long seta. In colour and lustre very like *philhygroides* but smaller, the thorax broader, antennæ shorter and less stout, puncturation of the thorax closer and somewhat asperate, abdomen more closely punctured, the tibiæ with long setæ, etc.

♂: 8th dorsal segment gently rounded; 6th ventral segment produced, narrowed and rounded behind.

♀: 8th dorsal segment feebly broadly emarginate.

Mussooree district: Kolhu Khet Gad. In dung.

1904. *Atheta (Dimetrota) adjacens*, sp. n.

Black, shining, the head and thorax with slight bronze reflex, the elytra brownish-yellow. Antennæ black, the first three or four joints and legs reddish-yellow. Length 3 mm.

Build and colour of *sublævana*, but with differently constructed antennæ and longer elytra. Head as in *sublævana*, but the antennæ longer, the 3rd joint not laterally compressed in the ♂, 4th to 6th a little longer than broad, gradually decreasing in length, 7th as long as broad, 8th to 10th about a half broader than long, the 11th as long as the preceding two together. Thorax as closely but less finely punctured than in that species, the punctures somewhat asperate, before the scutellum with a fovea. Elytra a half longer than the

thorax, not emarginate postero-externally, finely, closely and asperately punctured. Abdomen a little narrowed before the apex, very finely, rather sparingly punctured on the first three segments, very sparingly on the following. Middle

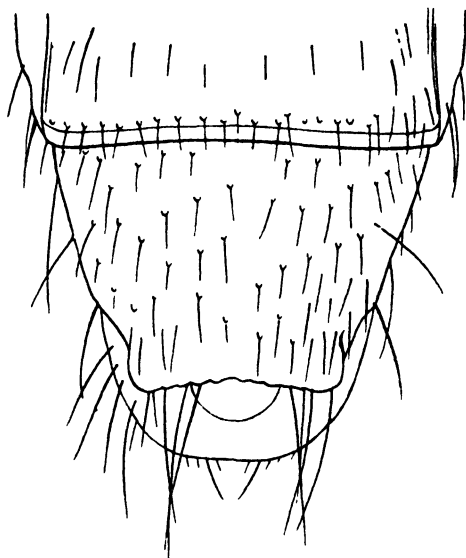


Fig. 105.—*Atheta (Dimetrota) adjacens*, ♂, apex of abdomen.

tibiae with rather long seta, the posterior with two very fine ones.

♂: 8th dorsal segment feebly arcuately emarginate and with six distinct crenulations, externally with a short ridge; 6th ventral segment a little produced and rounded.

Simla Hills: Kotgarh, Narkanda, alt. 7000–9250 feet. Kashmir: Gulmarg, alt. 8000–10,000 feet.

1905. *Atheta (Dimetrota) quadridens*, sp. n.

Moderately shining, head and abdomen black, the first two visible segments of the latter brownish-red, the last yellowish; thorax brownish-red, elytra yellow. Antennae black, the first two or three joints and the legs reddish-yellow. Length 2.5 mm.

Size and build of *sublævana*, but differently coloured, the antennae longer and stouter, the abdomen scarcely narrowed behind. Head and thorax less finely and more closely punctured than in *sublævana*, the sculpture of the elytra and abdomen scarcely differing from that species. Antennae with the 3rd joint as long as the 2nd, 4th as long as broad,

5th as long as broad but stouter than the 4th, the 6th to 10th slightly transverse, 11th as long as the 9th and 10th together. Thorax with an obsolete fovea before the scutellum and sometimes with trace of median longitudinal impression behind. The two setæ of the middle and posterior tibiæ well developed.

♂: 8th dorsal segment with four little teeth, the median ones more widely separated from each other than from the lateral.

Dehra Dun. In dung.

1906. *Atheta (Dimetrota) derivata*, sp. n.

Shining, black; the head and thorax with greenish-bronze reflex, elytra brownish-yellow. Antennæ black, the 1st joint and legs reddish-yellow. Length 2.5 mm.

Similar in build and colour to *sublævana*, but with longer and stouter antennæ, the 1st joint reddish-yellow, puncturation of the thorax not so fine and rougher, that of the elytra not so fine, closer and rougher, the abdomen more sparingly punctured on the last two segments. The antennæ have the 3rd joint in the ♂ laterally compressed, the 4th and 5th about as long as broad, the 6th to 10th about a half broader than long.

♂: 8th dorsal segment very feebly broadly emarginate, scarcely perceptibly crenulate, on each side with a little keel.

♀: 8th dorsal segment truncate.

Ghum district. In fungus.

1907. *Atheta (Dimetrota) umbra*, sp. n.

Moderately shining, black; the elytra brown. Antennæ black. Legs reddish-yellow. Length 2 mm.

Colour of *setigera* Shp., but narrower, rather more shining, the elytra shorter, the antennæ much stouter, the puncturation of the thorax rougher and less fine. Head finely, closely and roughly punctured, ground-sculpture scarcely visible. Antennæ rather stout, 3rd joint slightly longer than the 2nd, 4th small, as long as broad, 5th stouter, as long as broad, 6th to 10th transverse, the penultimate joints about twice as broad as long, the 11th stout, as long as the 9th and 10th together. Thorax a third broader than long, before the scutellum with an obsolete impression, closely, finely and roughly punctured, ground-sculpture absent, the lateral setæ fine. Elytra as long as but broader than the thorax, finely, closely and asperately punctured. Abdomen a little narrowed towards the apex, very finely, rather closely punctured, a little less closely on the last two segments. Pubescence

throughout fine, depressed, moderately close. Middle tibiæ with two, the posterior with one, rather long setæ.

♂: 8th dorsal segment with a feeble arcuate emargination in the middle of the posterior margin.

Almora: Dhauli Ganga, alt. 6800 feet. Kashmir: Gulmarg, alt. 8000–10,000 feet. In carrion.

1908. *Atheta (Dimetrota) confinis*, sp. n.

Very like *umbra*, of the same colour and build, but with the antennæ not so stout, the penultimate joints less transverse, the thorax and elytra more closely and rather more finely punctured, the abdomen as in *umbra*. Length 2 mm.

♂: 8th dorsal segment broadly rounded; 6th ventral segment a little produced and narrowed, the posterior margin rounded and furnished with fine, closely placed setæ.

Simla Hills, alt. 7000–8000 feet. In fungus.

1909. *Atheta (Dimetrota) sulcicollis*, sp. n.

Moderately shining, black; the elytra yellowish-brown. Antennæ black, the first two joints pitchy. Legs reddish-yellow. Length 2 mm.

In build much resembling *setigera* Shp., but the antennæ a little longer; the puncturation of the head and thorax is very similar to that of *setigera*. Head almost as broad as the thorax, the eyes a little longer than the post-ocular region, the disc in the ♂ with a fine impressed line, finely, rather sparingly, asperately punctured, coriaceous, much as in *setigera*. Antennæ with the 3rd joint as long as the 2nd, 4th as long as broad, 5th to 10th transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax about a fourth broader than long, the sides a little retracted behind, along the middle in the ♂ deeply and broadly impressed as in *scrobicollis* Kr., very finely, rather closely, asperately punctured as in *setigera*, the ground-sculpture as on the head. Elytra distinctly broader and a half longer than the thorax, as long as broad, closely, finely, asperately punctured as in *setigera*, finely coriaceous. Abdomen parallel, finely, moderately closely punctured on the first three segments, more sparingly on the following, much as in *setigera*. Tibial setæ feeble.

♂: 8th dorsal segment feebly broadly emarginate, the emargination angulate on each side, scarcely dentiform; 6th ventral segment a little produced, narrowed and rounded.

Ghum district: Lepchajagat, alt. 7000 feet (*J. C. M. Gardner*). In fungus.

1910. *Atheta (Dimetrota) quadraticollis*, sp. n.

Rather shining; head black, thorax reddish-brown, elytra and first two visible abdominal segments yellowish-brown, the following black. Antennæ black, the first two joints and the legs reddish-yellow. Length 3 mm.

Remarkable in the subgenus by the nearly square thorax, which, like the head, is simply punctured and with scarcely visible ground-sculpture. Head almost as broad as the thorax, the eyes longer than the post-ocular region, extremely finely, rather sparingly punctured. Antennæ with the 3rd joint as long as the 2nd, 4th to 6th longer than broad, gradually decreasing in length, 7th as long as broad, 8th to 10th slightly transverse, 11th as long as the 9th and 10th together. Thorax slightly transverse (4.2 : 3.5), the sides very slightly rounded in front, straighter and slightly retracted behind, the posterior angles obtuse, very finely, simply, moderately closely punctured. Elytra broader and longer (5 : 3.5) than the thorax, finely, closely punctured, the punctures feebly asperate. Abdomen distinctly narrowed behind, finely and rather closely punctured on the first three visible segments, much more sparingly on the 4th and 5th, more closely again on the 6th. Tibial setæ moderate. The two examples show no special sexual characters, and are probably ♀.

Ghum district : Lepchajagat.

Subgenus *DATOMICRA* Muls. et Rey.

Datomicra Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 355; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 161; Bernh., W. Z. B. lvii, 1907, p. 394; Reitter, Faun. Germ. ii, 1909, p. 67; Johansen, Danmarks Rovbiller, 1914, p. 130; Fenyès, Gen. Ins. 173 B, p. 219; Munster, Norsk Ent. Tidskr. ii, 1925-30, p. 20; Portevin, Encycl. Ent. A, xii, 1929, i, p. 286; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 244.

Hilarina Cas., Mem. Col. i, 1910, p. 128.

Micromota Cas., l. c. p. 127.

Monadia Cas., l. c. p. 130.

Oligomia Cas., l. c. p. 129.

Small obscure species. Temples entirely bordered below. Antennæ moderately thickened towards apex, the 3rd joint shorter than the 2nd. Thorax strongly transverse, the epipleura visible from the side. Abdomen more or less distinctly narrowed towards apex, the first three visible segments transversely impressed at their bases. Mesosternal process acute, extending to about the middle of the coxæ, these contiguous or narrowly separated. Setæ of the sides of thorax and abdomen and of the tibiæ usually feeble. This subgenus is only likely to be confused with *Microdota*, but in this the thorax is narrower and the abdomen parallel or slightly widened behind.

Key to the Species.

1. Antennæ with the 11th joint as long or nearly as long as the three preceding together 2.
 Antennæ with the 11th joint not longer than the two preceding together 3.
2. Larger (1.2-1.4 mm.) and duller; elytra dark brown or black *sordidula* Er., p. 385.
 Smaller (1 mm.), more shining; elytra brownish-yellow *nana* Kr., p. 387.
3. Antennæ more slender, the 4th and 5th joints not transverse *subarenicola*, sp. n., p. 387.
 Antennæ stouter, the 4th and 5th joints transverse 4.
4. Smaller (1.3 mm.) and narrower, more roughly punctured [p. 386. *sordiduloides*, sp. n.,
 Larger (1.8 mm.) and broader, less roughly punctured *subnigra*, sp. n., p. 386.

1911. *Atheta* (*Datomiera*) *sordidula*.

Homalota sordidula Er., Käf. Mark Brandenb. i, 1837-39, p. 335; id., Gen. Spec. Staph. 1839-40, p. 123; Redtb., Faun. Austr. ed. i, 1849, p. 820, ed. ii, 1858, p. 126, and ed. iii, 1874, p. 157; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 296; Thoms., Skand. Col. iii, 1861, p. 91; Sharp, Trans. Ent. Soc. Lond. 1869, p. 238; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 372; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 689; Fowler, Col. Brit. Is. ii, 1888, p. 125; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 162; Everts, Col. Neerl. i, 1898, p. 206; Reitter, Faun. Germ. ii, 1909, p. 67, tab. 43, fig. 14; Johansen, Danmarks Rovbiller, 1914, p. 131; Everts, Col. Neerl. iii, 1922, p. 96; Munster, Norsk Ent. Tidsskr. ii, 1925-30, p. 22; Portevin, Encycl. Ent. A, xii, 1929, i, p. 287; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 244 (typ. subgen.).

Black, rather dull, the elytra pitchy-black. Antennæ black, the legs brownish-yellow. Length 1.2-1.4 mm.

Head small, rounded, the disc sometimes with a small fovea, extremely finely, rather closely punctured, coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th small, transverse, 5th to 10th transverse, about a half broader than long, 11th elongate, longer than the 9th and 10th together. Thorax more than a third broader than long, sometimes with a fine impressed line along the middle behind, very finely, closely and roughly punctured, coriaceous. Elytra about a fourth longer than the thorax, closely, finely and roughly punctured. Abdomen narrowed towards apex, finely, closely and roughly punctured and pubescent throughout.

Assam: Shugnu, alt. 3000 feet. In dung. Widely distributed in the Palæarctic region.

1912. *Atheta (Datomiera) sordiduloides*, sp. n.

Black, dull, the elytra blackish-brown. Antennæ black. Legs reiddish-yellow. Length 1.3 mm.

In build, colour and lustre very similar to *sordidula* Er., but with the head a little broader, the antennæ a little shorter and stouter, the head and thorax not quite so finely and closely punctured. Head suborbicular, narrower than the thorax, the disc with a small impression, very finely, roughly, moderately closely punctured, distinctly coriaceous. Antennæ with the 3rd joint a little shorter than the 2nd, 4th narrower than the 5th, transverse, 5th to 10th transverse, the penultimate joints about a half longer than broad, 11th as long as the 9th and 10th together. Thorax a half broader than long, the sides gently rounded in front, straighter and a little retracted behind, before the scutellum sometimes with a feeble longitudinal impression, closely, finely and roughly punctured, coriaceous. Elytra broader but scarcely longer than the thorax, very finely, closely and roughly punctured. Abdomen a little narrowed behind, very finely and closely punctured, almost as closely on the posterior segments as on the anterior. Thoracic and tibial setæ feeble.

♂: 8th dorsal segment with four small teeth, the external ones the larger.

Kashmir: Gulmarg, alt. 8000–10,000 feet.

1913. *Atheta (Datomiera) subnigra*, sp. n.

Moderately shining, black, the elytra dark brown. Antennæ black. Legs brownish-yellow. Length 1.8 mm.

Build, colour and lustre of *zosteræ* Thoms., but with broader head and shorter stouter antennæ, head, thorax, and elytra less finely, more roughly punctured, the abdomen on the other hand more finely and less roughly punctured. Less shining than *subarenicola*, the thorax less transverse, antennæ stouter and shorter, ground-sculpture more evident. Head broad, the disc with a small impression, very finely, rather sparingly, asperately punctured, distinctly coriaceous. Antennæ with the 3rd joint distinctly shorter than the 2nd, 4th and following transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax about a third broader than long, without impression, closely, finely, and roughly punctured, distinctly coriaceous. Elytra a little broader and a third longer than the thorax, finely, closely, and roughly punctured. Abdomen a little narrowed behind, very finely, closely punctured and pubescent, a little less closely on the last two segments.

♂: 8th dorsal segment with a short spine on each side, in the middle with two more or less developed triangular teeth

(sometimes reduced to little rounded projections), and separated from each other by a shallow arcuate emargination; 6th ventral segment produced, narrowed, and rounded.

Simla Hills. Chakrata and Mussooree districts. In dung.

1914. *Atheta (Datomiera) subarenicola*, sp. n.

Shining black. Antennæ black. Legs reddish-yellow, the femora and tibiæ slightly infuscate. Length 1.75 mm.

Build of *arenicola* Thoms., in lustre and antennal structure more like *zosteræ* Thoms., the puncturation of the head and thorax rougher than in *arenicola*. Head broad, but narrower than the thorax, the disc with a small impression, finely, rather closely, roughly punctured, the ground-sculpture feeble. Antennæ with the 3rd joint a little shorter than the 2nd, 4th scarcely longer than broad, 5th stouter than the 4th, as long as broad or very slightly transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax about a half broader than long, rather broadly and distinctly impressed along the middle of the posterior half, finely, closely and roughly punctured, feebly coriaceous. Elytra broader and a half longer than the thorax, finely, closely and roughly punctured. Abdomen a little narrowed before the apex, finely, closely and roughly punctured and pubescent throughout, only a little more sparingly on the last two segments.

♂: 6th ventral segment a little produced, scarcely narrowed, the posterior margin broadly rounded and furnished with close, fine short setæ

Kashmir: Gulmarg, alt. 8000–10,000 feet.

1915. *Atheta (Datomiera) nana*.

Homalotus nana Kr.*, Arch. Naturg. xxv, 1859, p. 36.

Narrow, shining, black, the elytra brownish-yellow. Antennæ blackish. Legs reddish-yellow. Length 1 mm.

Head subquadrate, nearly as wide as the thorax, the disc sometimes with a small feeble impression, very finely, rather closely, somewhat roughly punctured, smooth in front, very finely coriaceous. Antennæ slender, the 3rd joint shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate about a half broader than long, the 11th elongate, nearly as long as the three preceding together. Thorax a third broader than long, the sides gently rounded, without distinct setæ, the posterior angles rounded, sometimes feebly impressed along the middle in the posterior half, as finely but a little more closely punctured than the head, and without ground-sculpture. Elytra a little broader but scarcely longer than

the thorax, not emarginate postero-externally, as finely but a little more closely punctured. Abdomen a little narrowed behind, finely and rather closely punctured on the first three segments, much more sparingly on the following. Pubescence on the fore parts very fine, rather short, that of the abdomen longer. Middle tibiæ with a fine seta.

Ceylon. Also in Penang. In dung.

Subgenus *CHÆTIDA* Muls. et Rey.

Chætida Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 272; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 160; Bernh., W. Z. B. lvii, 1907, p. 394; Reitt., Faun. Germ. ii, 1909, p. 67; Johansen, Danmarks Rovbiller, 1914, p. 134; Fenyès, Gen. Ins. 173 B, 1920, p. 222; Munster, Norsk Ent. Tidsskr. ii, 1925-30, p. 24; Portevin, Encycl. Ent. A, xii, 1929, i, p. 287; Scheerp., Sitz-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 245.

Head suborbicular, the temples bordered below. Antennæ rather long and stout, not much thickened towards the apex, the 3rd joint longer than the 2nd. Thorax moderately transverse, the epipleura visible from the sides, these strongly ciliate. Mesosternal process acute, extending half the length of the coxæ, these very narrowly separated. Elytra not emarginate. Abdomen narrowed from base to apex, the sides with long setæ, closely punctured and pubescent throughout, the first three visible segments transversely impressed at the bases. Middle and posterior tibiæ with well-developed setæ.

1916. *Atheta* (*Chætida*) *longicornis*.

Aleochara longicornis Gr., Col. Micr. Brunsv. 1802, p. 87; Er., Käf. Mark Brandenb. i, 1837-39, p. 337; id., Gen. Spec. Staph. 1839-40, p. 129; Redtb., Faun. Austr. ed. i, 1849, p. 664, ed. ii, 1858, p. 134, and ed. iii, 1874, p. 166; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 301; Thoms., Skand. Col. iii, 1861, p. 98; Sharp, Trans. Ent. Soc. Lond. 1869, p. 243; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 275; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 687; Fowler, Col. Brit. Is. ii, 1888, p. 132, tab. 47, fig. 10; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 160; Everts, Col. Neerl. i, 1898, p. 206; Reitt., Faun. Germ. ii, 1909, p. 67, tab. 43, fig. 13; Johansen, Danmarks Rovbiller, 1914, p. 134, fig. 43; Munster, Norsk Ent. Tidsskr. ii, 1925-30, p. 24; Portevin, Encycl. Ent. A, xii, 1929, i, p. 287, fig. 281; Scheerp., Sitz-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 245 (type subgen.).

Aleochara antennata Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 115.

Homalota socialis Luc., Expl. Alg. Ins. ii, 1849, p. 101.

Homalota tropica Motsch., Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 256.

Homalota validicornis Mannerh., Mém. Prés. Acad. Sci. St. Petersb. i, 1830, p. 497.

Rather shining, black, the elytra yellowish or brownish-yellow. Antennæ black, the 1st joint sometimes pitchy. Legs reddish- or brownish-yellow. Length 3-3.5 mm.

Readily recognized by the long, stout antennæ, strongly pointed abdomen, and long setæ at the sides of the thorax and on the middle and posterior tibiæ. Head round, a good deal narrower than the thorax, extremely finely, moderately closely punctured, finely coriaceous. Antennæ long and stout, the 3rd joint distinctly longer than the 2nd, 4th transverse, 5th to 10th gradually increasing in length, the 5th about as long as broad, the 10th a little longer than broad, 11th about a half longer than the 10th. Thorax nearly a half broader than long, the sides gently rounded in front, straighter and retracted behind, the posterior angles obtuse, finely, moderately closely punctured on the disc, more sparingly towards the sides, these with long black setæ. Elytra broader and a little longer than the thorax, moderately finely, rather closely and simply punctured, the shoulders with a long seta. Abdomen strongly narrowed from base to apex, very closely and finely punctured and pubescent throughout, the sides and apex with long black setæ. The pubescence on the fore-parts rather coarse and rough. Middle and posterior tibiæ with long black setæ.

♂: 8th dorsal segment slightly arcuately emarginate; 6th ventral segment very slightly produced and rounded behind.

♀: 6th ventral segment slightly emarginate and furnished with fine, short, closely placed setæ.

Chakrata district: Bodyar, alt. 8000 feet. Simla Hills: Kotgarh, alt. 7000 feet. Assam: Shugnu, alt. 3000 feet. In dung. Widely distributed in the Palæarctic region.

Subgenus *COPROTHASSA* Thoms.

Coprothassa Thoms., Skand. Col. iii, 1861, p. 33; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 154; Bernh., W. Z. B. vii, 1907, p. 394; Reitt., Faun. Germ. ii, 1909, p. 70; Johansen, Danmarks Rovbiller, 1914, p. 121; Fenyès, Gen. Ins. 173 B, 1920, p. 222; Munster, Norsk Ent. Tidskr. ii, 1925-30, p. 25; Portevin, Encycl. Ent. A, xii, 1929, p. 287; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 245.

Hemitropia Muls. et Rey. Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 179.

Head suborbicular. Temples bordered below. Antennæ stout or slender, not much thickened towards the apex, the 3rd joint longer than the 2nd. Thorax strongly transverse, narrowed towards the front, the sides evenly rounded, without or with only feeble setæ, the epipleura not visible from the side. Elytra slightly emarginate. Abdomen narrowed from

base to apex, closely punctured and pubescent throughout, the sides with long setæ, the first three visible segments transversely impressed at the base. Mesosternal process narrow and acute, extending beyond the middle of the coxæ, these very narrowly separated. Middle and posterior tibiæ each with one or two distinct setæ. Facies of certain *Oxyptoda*, but at once distinguished by the presence of tibial setæ.

Key to the Species.

1. Darker species, the abdomen black or pitchy 2.
Brightly coloured species, the abdomen yellowish-red 3.
2. Thorax very finely and closely punctured, less shining; abdomen more closely punctured; seta of middle tibia shorter and finer *sordida* Marsh., p. 390.
Thorax finely, less closely punctured, more shining; abdomen less closely punctured; seta of middle tibia longer and thicker [p. 391.
pseudosordida, sp. n..
3. Larger (3.5 mm.) and more robust; antennæ with the 6th to 10th joints as long as broad *rufoflava*, sp. n., p. 392.
Smaller (3 mm.) and narrower; antennæ with the 6th to 10th joints distinctly transverse [p. 392.
rufoflavescens, sp. n..

1917. *Atheta (Coprothassa) sordida*.

Aleochara sordida Marsh., Ent. Brit. Col. 1802, p. 514; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 673 (*Homalota*); Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 154 (*Atheta*); Reitt., Faun. Germ. ii, 1909, p. 70; Fowler, Col. Brit. Isl. ii, 1888, p. 133, tab. 47, fig. 12 (*Homalata*); Everts, Col. Neerl. i, 1898, p. 203; Bernh., W. Z. B. lvii, 1907, p. 394; Blatchley, Col. Indiana. i, 1910, p. 357; Johansen, Danmarks Rovbiller, 1914, p. 121; Absolon, Col. Rundsch. v, 1916, p. 143, fig. 2; Munster, Norsk Ent. Tidskr. ii, 1925-30, p. 25; Portevin, Encycl. Ent. A, xii, 1929, i, p. 287; Scheerp., Sitz-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 245 (typ. subgen.); Keys., E. M. M. lxxii, 1936, p. 15 (figs.).

Homalota curvipes Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 147.

Homalota emarginata Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 183.

Homalota fallaciosa Sahlb., Ann. Soc. Ent. Fr. (4) iv, 1864, p. 632.

Homalota flavicans Motsch., Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 256.

Homalota fulvipennis Kolenati, Melet. Ent. iii, 1846, p. 7.

Homalota livida Er., Käf. Mark Brandenb. i, 1837-39, p. 337.

Homalota lividipennis Mannerh., Mém. Acad. Sci. St. Petersb. i, 1830, p. 484; Er., Gen. Spec. Staph. 1839-40, p. 129; Redtb., Faun. Austr. ed. i, 1849, p. 664, ed. ii, 1858, p. 134, and ed. iii, 1874, p. 151 (*Oxyptoda*); Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 311 (*Homalota*).

Homalota melanaria Thoms., Öfv. Svenska Vet.-Akad. Förh. ix, 1852, p. 145; id., Skand. Col. iii, 1861, p. 34; Sharp, Trans.

Ent. Soc. Lond. 1869, p. 254; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 179 (*Hemitroptia*); Lynch Arribalz., Bol. Acad. Cienc. Córdoba, vii, 1884, p. 59 (*Colpodota*).
Oxyptoda nitidula Heer, Faun. Helv. i, 1838-42, p. 319.
Oxyptoda pallidipennis Motsch., Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 243; Cam., E. M. M. lxix, 1933, p. 220.
Homalota squalidipennis Fairm. & Germ., Ann. Soc. Ent. Fr. (4) i, 1861, p. 422.

Scarcely shining; head and thorax black, the latter sometimes dark brown; elytra yellow, with triangular black scutellary marking and sometimes with the reflexed margin infuscate; abdomen black, the posterior margins of the segments narrowly reddish. Antennæ pitchy, first two joints reddish-yellow. Legs yellow. Length 3-3.5 mm.

Head transversely suborbicular, convex, a good deal narrower than the thorax, very finely, closely punctured, ground-sculpture absent. Antennæ long and stout, the 3rd joint longer than the 2nd, 4th transverse, 5th to 8th stouter than the 4th, slightly transverse, 9th and 10th about as long as broad, the 11th elongate, longer than the 9th and 10th together. Thorax a half broader than long, convex, the sides rounded, more retracted in front, without setæ, the posterior angles rounded, very finely and closely punctured, ground-sculpture absent. Elytra as broad and as long as the thorax, emarginate at the postero-external angles, finely, closely, roughly punctured. Abdomen narrowed from base to apex, very finely and densely punctured on the first three segments, distinctly less closely on the following, the sides and apex with some long black setæ. Middle tibiæ each with a short black seta. The whole insect closely covered with a fine short yellow pubescence, almost sericeous.

♂: 8th dorsal segment very feebly, broadly emarginate.

♀: 8th dorsal segment feebly, broadly emarginate; 6th ventral segment rather deeply emarginate, the margin furnished with fine, short, closely placed setæ.

Mussooree and Chakrata districts. Dehra Dun. Nilgiri Hills. In dung and vegetable refuse. Cosmopolitan.

1918. *Atheta* (*Coprothassa*) *pseudosordida*, sp. n.

Shining; head, thorax and abdomen black, the posterior margin of the first three segments narrowly reddish; elytra brownish-yellow. Antennæ black, the first two joints brownish-yellow. Legs reddish-yellow. Length 3.5 mm.

Build of *sordida*, but distinctly shining, the elytra less brightly coloured, head and thorax much less closely punctured and with a very feeble ground-sculpture, elytra less finely and less closely punctured, abdomen a little more sparingly punctured; pubescence on the fore-parts quite different, much more sparing, coarse and stiff, not at all sericeous;

middle tibiæ with a longer and stouter seta, the posterior also with a seta. The antennal structure scarcely differs in the two species.

Ghum district : Lepchajagat.

1919. *Atheta (Coprothassa) rufoflava*, sp. n.

Moderately shining ; head pitchy-black, thorax and abdomen light reddish-brown, the margins of the former narrowly yellowish ; elytra yellow, sometimes infusate along the suture. Antennæ blackish, the first three joints and legs reddish-yellow. Length 3.5 mm.

Build of *sordida* Marsh., but at once distinguished by the colour and the much thinner antennæ, the 6th to 10th joints as long as broad ; the head is as closely but rather less finely and more roughly punctured, the puncturation of the thorax and elytra scarcely differ from that of *sordida*, but that of the abdomen is not so close, the setæ of the middle and posterior tibiæ are more developed.

Siwaliks : Kheri Rau. Dehra Dun : Nun Nadi ; Kalsi. In dung.

1920. *Atheta (Coprothassa) rufoflavescens*, sp. n.

Similar to *rufoflava* in colour except that the suture of the elytra is not infusate, but smaller (3 mm.) and narrower, the antennæ although slender are much shorter, the 6th to 10th joints distinctly transverse, the 4th and 5th about as long as broad. The sculpture of the two species scarcely differs and the tibial setæ are also well developed.

Dehra Dun. In dung.

Subgenus *ACROTONA* Thoms.

- Acrotona* Thoms., Skand. Col. iii, 1861, p. 35 ; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 155 ; Bernh., W. Z. B. lvii, 1907, p. 394 ; Reitt., Faun. Germ. ii, 1909, p. 70 ; Johansen, Danmarks Rovbiller, 1914, p. 127 ; Fenyès, Gen. Ins 173 B, 1920, p. 223 ; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 727 ; Munster, Norsk Ent. Tidskr. ii, 1925-30, p. 26 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 288 ; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 245.
- Achromota* Casey, Ann. New York Acad. Sci. vii, 1893, p. 300 ; Can. Ent. xlii, 1910, p. 107.
- Ancillota* Casey, Mem. Col. i, 1910, p. 165.
- Colpodota* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 187 ; Johansen, Danmarks Rovbiller, 1914, p. 123 ; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 727.
- Engamota* Casey, Mem. Col. i, 1910, p. 151.
- Eurypronota* Casey, Ann. New York Acad. Sci. vii, 1893, p. 334.
- Necoda* Casey, Mem. Col. i, 1910, p. 152.
- Solenia* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 255 ; Johansen, Danmarks Rovbiller, 1914, p. 126.

Head suborbicular, eyes of normal size, the temples bordered below. Antennæ only slightly thickened towards apex. Thorax strongly transverse, narrowed towards the front, the lateral margin regularly curved from base to apex, with or without setæ, the pronotal epipleura not visible from the side. Elytra as long or longer than the thorax, rarely shorter. Abdomen more or less narrowed towards the apex, the first three visible segments transversely impressed at their base. Mesosternal process acute, extending at least to the middle of the coxæ, these very narrowly separated. Middle and posterior tibiæ with more or less distinct setæ. In facies much resembling certain *Oxypoda*, but at once distinguished by the presence of tibial setæ.

Key to the Species.

1. Species in greater part dark or obscurely coloured; the elytra often reddish-yellow 2.
Species more brightly coloured; the abdomen entirely or in part red. 21.
2. Abdomen densely and finely punctured from base to apex, distinctly sericeous. *ruparia* Cam., p. 395.
Abdomen less densely punctured, not sericeous. 3.
3. Abdomen roughly and coarsely punctured. *subscabrosa*, sp. n., p. 397.
Abdomen more finely punctured 4.
4. Thorax and elytra with short, stiff, more or less erect pubescence. *hirtella*, sp. n., p. 402.
The pubescence longer, finer and depressed 5.
5. Antennæ reddish-yellow, at most a little infusate towards apex 6.
Antennæ black, the base sometimes lighter. 7.
6. Elytra fully as long as the thorax; penultimate joints of antennæ not or but slightly transverse *fungi* Gr., p. 402.
Elytra scarcely as long as the thorax; the penultimate joints of antennæ distinctly transverse [p. 405.
subclientula, sp. n.,
7. Elytra black or darker or lighter brown. 8.
Elytra yellow or reddish-yellow 15.
8. Larger (2.75-3 mm.) 9.
Smaller (1.3-2.3 mm.) 10.
9. 4th joint of antennæ fully as long as broad; abdomen rather closely punctured on the anterior segments; base of antennæ pitchy *inquinata*, sp. n., p. 407.
4th joint of antennæ transverse; abdomen rather sparingly punctured; base of antennæ reddish-yellow *sublugens*, sp. n., p. 404.
10. 4th joint of antennæ not or scarcely transverse 11.
4th joint of antennæ distinctly transverse 12.

11. Blacker, more roughly and less finely punctured; elytra a little longer than the thorax *parva* Sahlb., p. 398.
 More pitchy, less roughly and more finely punctured; elytra as long as the thorax [p. 399.
 *termitophila* Motsch.,
12. Fore-parts roughly punctured; antennæ scarcely lighter at base 13.
 Head and thorax scarcely roughly punctured; antennæ with the first two joints yellowish-red *clientulina*, sp. n., p. 405.
13. Fore-parts more coarsely and roughly punctured *scabrosa*, sp. n., p. 398.
 Fore-parts more finely and roughly punctured 14.
14. Larger (1·5–2 mm.) and broader; less finely punctured *nigerrima* Aubé, p. 400.
 Smaller (1·3–1·5 mm.) and narrower; more finely punctured *trivialis*, sp. n., p. 401.
15. Penultimate joints of antennæ slightly transverse 16.
 Penultimate joints of antennæ distinctly transverse 18.
16. Abdomen black 17.
 Abdomen with the last segment and posterior margins of the others distinctly reddish-yellow [p. 401.
 *motschulskyi*, n. n.,
17. Broader; antennæ stouter; thorax and elytra more roughly punctured *vicaria* Kr., p. 396.
 Narrower; antennæ thinner; thorax and elytra less roughly punctured.... *suspiciosa* Motsch., p. 397.
18. Thorax reddish-brown; abdomen with the last segment and the posterior margins of the others broadly reddish-yellow *ruralis*, sp. n., p. 407.
 Thorax black; abdomen with the posterior margins of the segments at most narrowly and obscurely reddish 19.
19. Larger (2–2·3 mm.); puncturation of the fore-parts very fine and close, not rough 20.
 Smaller (1·5 mm.); puncturation of the fore-parts very fine and rough *fletcheri*, sp. n., p. 395.
20. Antennæ with the 5th joint as long as broad *kraatziana*, n. n., p. 406.
 Antennæ with the 5th joint transverse . *inornata* Kr., p. 406.
21. Abdomen entirely red *rufiventris* Cam., p. 408.
 Abdomen with the 6th segment or 6th and 7th dark.
22. Head black 22. [p. 404.
 Head reddish *andrewesiana*, sp. n.,
 23.
23. Abdomen closely punctured on the anterior segments; puncturation of thorax rough *aliena*, n. n., p. 400.
 Abdomen less closely punctured; puncturation of thorax not rough *annuliventris* Kr., p. 409.

1921. *Atheta* (*Acrotona*) *ruparia*.

Atheta (*Colpodota*) *ruparia* Cam., Trans. Ent. Soc. Lond. 1920, p. 264.

Atheta creberrima Bernh. (*in litt.*).

Moderately shining; head black, abdomen black or pitchy-black, with the posterior margins of the segments narrowly and obscurely lighter; elytra yellow or brownish-yellow, infuscate about the scutellum. Antennæ black, the first two joints brownish-yellow. Legs reddish-yellow. Length 2.3–2.5 mm.

In build, colour and lustre much resembling *sordida* Marsh., but much smaller, the antennæ much thinner, the abdomen more finely and densely punctured and pubescent, as closely on the apical segments as elsewhere. Head narrower than the thorax, finely, moderately closely punctured, indistinctly coriaceous. Antennæ moderately long, the 2nd joint a little shorter than the 3rd, the 4th as long as broad, the 5th to the 7th a little longer than broad, gradually decreasing in length, the 8th to the 10th as long as broad, the 11th oval, pointed, as long as the preceding two together. Thorax one-third as broad again as long, the sides lightly rounded and but little contracted anteriorly and with two or three fine setæ, the posterior angles rounded; the surface finely, closely and somewhat roughly punctured, finely pubescent. Elytra brownish-testaceous, infuscate at the scutellum, as long as but a little broader than the thorax, transverse, with puncturation as on the thorax but not so fine; humeral angles with a stout seta. Abdomen pointed, exceedingly finely and closely punctured throughout, exceedingly finely and closely pubescent as in the genus *Oxypoda*, sericeous, sides and apex setiferous. Middle and posterior tibiæ each with two long and strong setæ.

Dehra Dun. Siwaliks. Central Provinces: Rohatgaon. Andaman Islands. Also in Singapore, South China, and the Philippines. In dung.

1922. *Atheta* (*Acrotona*) *fletcheri*, sp. n.

Moderately shining; black, the last abdominal segment yellowish; elytra yellow, the scutellary and sutural regions triangularly infuscate. Antennæ black, the first two or three joints brownish-yellow. Legs reddish-yellow. Length 1.5 mm.

In build and colour like *sordida* Marsh., but much smaller, the elytra shorter and with different antennal structure. Head suborbicular, much narrower than the thorax, very finely, rather closely asperately punctured, very finely coriaceous.

Antennæ rather slender, the 3rd joint as long as the 2nd, 4th to 7th as long as broad, scarcely differing amongst themselves, the 8th to 10th a little transverse, the 11th as long as the 9th and 10th together. Thorax rather more than a half broader than long, convex, narrowed towards the front, the sides without setæ, very finely, closely, asperately punctured : ground-sculpture absent. Elytra as long and as broad as the thorax, slightly emarginate postero-externally, closely, asperately and a little less finely punctured. Abdomen narrowed from base to apex, very finely, rather closely punctured and pubescent on the first three segments, much more sparingly on the following, the posterior margins of the segments, sides and apex with a few long black setæ. Pubescence of the fore-parts fine, moderately close and depressed, that of the abdomen longer and coarser. Middle tibiæ with two, posterior with one, moderately long black setæ.

Dehra Dun. Bihar : Pusa. In dung.

1923. *Atheta (Acrotona) vicaria*.

Homalota vicaria Kr.*, Arch. Naturg. xxv, 1859, p. 38.

Black, a little shining, the elytra yellowish-brown, slightly infuscate at the scutellum. Antennæ black, the 1st or 1st and 2nd joints reddish. Legs reddish-yellow. Length 2.5 mm.

In build very similar to *aterrima* Gr., but usually more robust, differently coloured, and with much stouter antennæ. Head rather broad, but distinctly narrower than the thorax : convex, very finely, rather closely punctured, distinctly coriaceous. Antennæ stout, the 3rd joint slightly longer than the 2nd, 4th as long or slightly longer than broad, 5th to 7th about as long as broad, 8th to 10th slightly transverse, the 11th as long as the two preceding together. Thorax convex, nearly a half broader than long, the sides rounded, a little more retracted in front, the posterior angles rounded, finely, very closely, somewhat roughly punctured, the ground-sculpture feeble. Elytra broader and nearly a third longer than the thorax, scarcely emarginate, very finely, closely and roughly punctured. Abdomen gradually narrowed behind, very finely, rather closely punctured on the first three segments, a little less closely on the following, the sides and apex with some long black setæ. Middle tibiæ with two short setæ, the posterior with one. The pubescence throughout is coarse and rough, especially on the abdomen, where it is also longer. In the two examples before me the posterior margin of the 8th dorsal segment is gently rounded, the 6th ventral segment a little produced and rounded.

Ceylon. India : Nilgiri Hills.

1924. *Atheta* (*Acrotona*) *suspiciosa*.

Homalota suspiciosa Motsch.*, Étud. Ent. viii, 1859, p. 90 ;
Cam., E. M. M. lxix, 1933, p. 219.

Atheta (*Coprothassa*) *anepeia* Cam., E. M. M. lvi, 1920, p. 95.

Black, a little shining, the elytra brownish-yellow, sometimes a little infuscate at the scutellum and on the reflexed sides. Antennæ black, the first two joints yellowish-red or pitchy. Legs reddish-yellow. Length 2.5–3 mm.

Very like *vicaria*, scarcely differing in colour, but narrower, and with the antennæ longer, not so stout, the penultimate joints scarcely transverse, otherwise constructed as in that species ; the head is similarly punctured, but the thorax and elytra more finely and less roughly ; the abdomen scarcely differs from that of *vicaria*. The lower seta of the middle tibiæ is much longer than in *vicaria*, that of the posterior also distinctly longer.

♂ : 6th ventral segment a little produced and rounded.

Ceylon : Nuwara Eliya ; Bogawantalawa, alt. 4900–8000 feet. India : Dehra Dun. Mussooree and Chakrata districts, alt. 6000–8000 feet. Kumaun : Naini Tal.

The examples from Northern India have the base of the antennæ darker than those from Ceylon.

1925. *Atheta* (*Acrotona*) *subscabrosa*, sp. n.

Moderately shining ; head and abdomen black, thorax pitchy-black, the elytra yellowish-brown. Antennæ black, the 1st joint sometimes brownish-yellow. Legs reddish-yellow. Length 2 mm.

A small, obscurely coloured species with rough puncturation, in build similar to *aterrima* Gr., but smaller, differently coloured, the sculpture much coarser and rougher, the antennæ much thinner, thinner than in *pygmæa* Gr. Head a good deal narrower than the thorax, finely, rather closely, roughly punctured, very finely coriaceous. Antennæ slender, the 3rd joint scarcely shorter than the 2nd, 4th as long as broad, 5th stouter, as long as broad or slightly transverse, 6th to 10th slightly transverse, differing but little amongst themselves, 11th as long as the 9th and 10th together. Thorax rather more than a half broader than long, narrowed towards the front, not or very indistinctly impressed in the middle behind, closely and roughly punctured, less finely than the head, ground-sculpture absent. Elytra a little broader and a little longer than the thorax, feebly emarginate postero-externally, less finely, closely and roughly punctured, transversely rugulose. Abdomen narrowed from base to apex, rather coarsely, very closely roughly punctured throughout, only a little less closely on the penultimate segments. Pubescence

on the fore-parts rather fine, moderately close and depressed, on the abdomen longer and coarser. Middle tibiæ with a moderate seta, the posterior with a finer one.

♂: 8th dorsal segment feebly rounded.

Assam: Shugnu, alt. 3000 feet. In dung.

1926. *Atheta (Acrotona) scabrosa*, sp. n.

Moderately shining, black, the elytra brown or yellowish-brown. Antennæ black. Legs reddish-yellow, the femora and tibiæ a little infuscate. Length 2-2.3 mm.

Very near *subscabrosa*, but blacker and with much stouter antennæ, the penultimate joints about twice as broad as long, thorax closely and more coarsely and roughly punctured, that of the elytra scarcely differing from *subscabrosa*; the abdomen is closely and finely but less roughly punctured than in that species, and the last two or three segments less closely. The pubescence on the fore-parts is very similar to that of *subscabrosa*, but that of the abdomen is finer, shorter and less close. The head has sometimes a small impression on the disc, the antennæ have the 2nd and 3rd joints shorter than in *subscabrosa* and the 4th distinctly transverse. Thorax occasionally with a feeble median impression along the posterior half. Tibial setæ shorter than in *subscabrosa*.

♂: 8th dorsal segment feebly arcuately emarginate; 6th ventral segment a little produced, narrowed and rounded.

Chakrata and Mussooree districts. Dehra Dun.

1927. *Atheta (Acrotona) parva*.

Aleochara parva Sahlb., Ins. Fenn. i, 1834, p. 380; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 676 (*Homalota*); Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 156 (*Atheta*); Reitt., Faun. Germ. ii, 1909, p. 71; Everts, Col. Neerl. i, 1898, p. 204; Bernh., W. Z. B. lvii, 1907, p. 394; Johansen, Danmarks Rovbiller, 1914, p. 125; Everts, Col. Neerl. iii, 1922, p. 94; Munster, Norsk Ent. Tidskr. ii, 1925-30, p. 27; Portevin, Encycl. Ent. A, xii, 1929, i, p. 289.

Homalota lacertosa Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 215.

Homalota pilosiventris Thoms., Öfv. Svenska Vet.-Akad. Förh. 1856, p. 106; id., Skand. Col. iii, 1861, p. 38; Sharp, Trans. Ent. Soc. Lond. 1869, p. 260; Fowler, Col. Brit. Isl. ii, 1888, p. 136.

Homalota stercoraria Kr., Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 319; Redtb., Faun. Austr. ed. ii, 1858, p. 141, ed. iii, 1874, p. 165; Muls. et Rey, Hist. Nat. Col. Fr. Brév. Aléoch. iii, 1873, p. 200.

Var. *muscorum* Bris., Ann. Soc. Ent. Fr. (3) viii, 1860, p. 344; Sharp, Trans. Ent. Soc. Lond. 1869, p. 259; Scriba, Berl. Ent. Zeitschr. xv, 1871, p. 161; Redtb., Faun. Austr. ed. iii, 1874, p. 548; Fowler, Col. Brit. Isl. ii, 1888, p. 136; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 156; Portevin, Encycl. Ent. A, xii, 1929, i, p. 287.

Moderately shining, black, the elytra brown. Antennæ black, the 1st joint pitchy. Legs reddish-yellow, the femora sometimes infusate. Length 1.75–2.2 mm.

Head suborbicular, much narrower than the thorax, very finely, rather closely, somewhat roughly punctured, the ground-sculpture very indistinct. Antennæ rather short and stout, the 3rd joint as long as the 2nd, 4th as long as broad or slightly transverse, 5th to 10th transverse, slightly increasing in width, the penultimate joints about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax about a half broader than long, convex, narrowed towards the front, lateral setæ feeble, in the type-form longitudinally impressed along the middle throughout or only posteriorly, in the var. *muscorum* without impression, very finely, closely, somewhat roughly punctured, ground-sculpture absent. Elytra slightly broader and a fourth longer than the thorax, very finely, closely, asperately punctured. Abdomen distinctly narrowed towards the apex, very finely, rather closely punctured, a little more sparingly on the last two segments, the sides and apex with some black setæ. Pubescence on the fore-parts fine, depressed, moderately close, on the abdomen longer and coarser and with a few longer black setæ. Middle tibiæ with two black setæ, posterior with one.

Simla Hills: Narkanda. Chakrata district: Konain. Almora: Dhauli Ganga, alt. 6700–9200 feet. Kashmir: Gulmarg.

The species appears only to be represented in our Fauna by the var. *muscorum*.

Widely distributed in the Palearctic region, Africa, and Argentina.

1928. *Atheta* (*Aerotona*) *termitophila*.

Homalota termitophila Motsch.*, Étud. Ent. viii, 1859 (Jan.), p. 61; Cam., E. M. M. lxix, 1933, p. 219.

Homalota peregrina Kr.*, Arch. Naturg. xxv, 1859 (Sept.), p. 39; Fauv., Rev. d'Ent. xxiii, 1904, p. 62.

A little shining; head black, thorax and abdomen black or pitchy-black, the posterior margins of the segments more or less narrowly brownish-yellow; elytra brown or yellowish-brown. Antennæ black, the first two joints brownish-yellow. Legs reddish-yellow. Length 1.75 mm.

In build much resembling *parva* Sahlb., but on the average smaller and not so black, the antennæ a little longer and more slender, the 11th joint longer, a little longer than the 9th and 10th together, puncturation of the fore-parts finer and closer, that of the abdomen also, the pubescence very similar to that of *parva* and with similar black setæ. Elytra as long as the thorax. Middle tibiæ with two moderate setæ, posterior with one. From

inornata differs in the smaller size and longer, thinner antennæ, the thorax less finely and less closely punctured with coarser, rougher pubescence.

Ceylon. India : Dehra Dun. Belgaum. Madras : Nilambur. Nilgiri Hills. Also in the Philippines.

1929. *Atheta (Acrotona) allena*, nom. n.

Oxyopoda palleola Motsch.*, Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 245 ; Cam., E. M. M. lxix, 1933, p. 220.

Shining, yellowish-red, the head darker, the elytra brownish-yellow, 6th abdominal segment blackish. Antennæ black, the first three joints and the legs reddish-yellow. Length 2.2 mm.

In build somewhat resembling *termitophila*, but larger, differently coloured, and with stouter antennæ. Head transverse, a good deal narrower than the thorax, the eyes large, occupying nearly the whole side of the head, very finely, rather sparingly punctured, scarcely coriaceous. Antennæ with the 3rd joint a little shorter than the 2nd, 4th to 10th transverse, gradually increasing in width, the 11th a little longer than the preceding two together. Thorax transverse (8 : 5), finely, rather roughly, closely punctured. Elytra as long as but slightly broader than the thorax, feebly emarginate postero-externally, with very similar sculpture. Abdomen gradually narrowed to the apex, finely and closely punctured on the anterior segments, more sparingly behind. The whole insect covered with a fine, moderately close, yellowish pubescence, the abdomen without long setæ.

"Ind. or.," without further indication. Two examples in poor condition.

1930. *Atheta (Acrotona) nigerrima*.

Homalota nigerrima Aubé, Ann. Soc. Ent. Fr. (2) viii, 1850, p. 308 ; Fairm. et Laboulb., Faun. Ent. Fr. i, 1854, p. 424 ; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 674 ; Redtb., Faun. Austr. ed. iii, 1874, p. 173 ; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 157 ; Reitt., Faun. Germ. ii, 1909, p. 71 ; Everts, Col. Neerl. iii, 1922, p. 94 ; Portevin, Encycl. Ent. A, xii, 1929, i, p. 289 ; Peyerimh., Mém. Soc. Hist. Nat. Afr. Nord. (Mission Hoggar), p. 34.

Acrotona abbreviata Muls. et Rey, Opusc. Ent. xvi, 1875, p. 181.

Homalota æthiops Woll., Cat. Col. Can. 1864, p. 551.

Homalota carbunculus Woll., Col. Hesper. 1867, p. 226.

Homalota exsecrabilis Woll., l. c. p. 225.

Shining black ; the elytra more or less brown or reddish-brown behind. Antennæ black. Legs reddish-yellow, the femora and tibiæ more or less infuscate. Length 1.5-2 mm.

Build of *parva* Sahlb., but much more shining, the antennæ much shorter with more strongly transverse penultimate joints,

elytra shorter, with coarser subsquamose sculpture, thorax and abdomen much less closely punctured, the latter much less pubescent. Head rather broad but a good deal narrower than the thorax, extremely finely, rather sparingly punctured, finely coriaceous. Antennæ with the 3rd joint much shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate about twice as broad as long, the 11th as long as the 9th and 10th together. Thorax about a half broader than long, narrowed towards the front, convex, without impression, very finely, moderately closely, somewhat roughly punctured, very finely coriaceous. Elytra as long as and scarcely broader than the thorax, not emarginate, finely, rather closely roughly punctured, subsquamose. Abdomen distinctly narrowed towards the apex, very finely, rather closely punctured, more sparingly on the last two segments, and with a few short erect black setæ, the sides and apex also with a few others. Pubescence throughout fine, not very close, depressed, longer on the abdomen. Middle tibiæ with a short black seta, the posterior with a finer one.

Dehra Dun. Siwaliks: Lachiwala; Mohan Rau. In dung. Also in middle and southern Europe, North Africa, Canary Islands, South Russia, Turkestan, and Aden.

1931. **Atheta (Acrotona) trivialis**, sp. n.

A slender fragile species closely allied to *nigerrima* Aubé, of the same colour and lustre but much narrower, the thorax shorter and so more transverse, the antennæ more slender, the penultimate joints less transverse, puncturation of the fore-parts finer and much denser, the middle tibiæ with two black setæ, the posterior with one, these finer than in *nigerrima*.

Length 1.3–1.5 mm.

Dehra Dun. In dung.

1932. **Atheta (Acrotona) motshulskyi**, nom. n.

Aleochara tenuicornis Motsch.*, Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 240 (præoc.); Cam., E. M. M. lxix, 1933, p. 220.

Moderately shining, black, the elytra yellowish-red, with the base and scutellary region triangularly pitchy, the abdomen with the last segment entirely, the posterior margins of the others narrowly yellowish-red. Antennæ black. Legs reddish-yellow. Length 2 mm.

In build resembling *nigerrima* Aubé, but less shining and differently coloured, the puncturation of the fore-parts closer, finer and rougher, more pubescent. Antennæ longer and thinner, the 3rd joint as long as the 2nd, 4th and 5th slightly longer than broad, 6th to 10th a little transverse, 11th as long

as the 9th and 10th together. Elytra as broad but scarcely as long as the thorax, feebly emarginate postero-externally. Abdomen narrowed from base to apex, finely and rather closely punctured throughout, the pubescence rather long.

"Ind. or.," without further indication. The single example is in poor condition.

1933. *Atheta (Acrotona) hirtella*, sp. n.

A little shining; head and abdomen black, thorax pitchy-black, elytra yellowish-brown. Antennæ black, the first two joints yellowish-brown. Legs reddish-yellow. Length 2 mm.

A small, obscurely coloured species with short, more or less erect and close pubescence on the fore-parts. In build like *nigerrima* Aubé, but less shining, the antennæ much longer and stouter, the puncturation much closer, the pubescence rougher. Antennæ as in *parva* Sahlb., but with the 5th joint longer than broad. Puncturation of the fore-parts close, fine and rough, the pubescence short, close and more or less erect, the sides of the elytra seen from above show this feature very distinctly. The abdomen is closely and finely punctured, scarcely less closely on the posterior segments, the pubescence long, the posterior margins of the segments, sides and apex with some long black setæ. Middle tibiæ with two distinct setæ, the posterior with one.

Ghum district : Mangpu.

1934. *Atheta (Acrotona) fungi*.

Aleochara fungi Gr., Mon. Col. Micr. 1806, p. 157; Er., Käf. Mark Brandenb. i, 1837-39, p. 338 (*Homalota*); id., Gen. Spec. Staph. 1839-40, p. 131; Redtb., Faun. Austr. ed. i, 1849, p. 663, ed. ii, 1858, p. 133, and ed. iii, 1874, p. 165; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 321; Thoms., Skand. Col. iii, 1861, p. 38; Sharp, Trans. Ent. Soc. Lond. 1869, p. 265; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 225 (*Acrotona*); Fauv., Faun. Gallo-Rhén. iii, 1872, p. 683 (ex parte); Fowler, Col. Brit. Isl. ii, 1888, p. 139, tab. 48, fig. 3; Ganglb., Käf. Mitt.-Eur., ii, 1895, p. 157; Everts, Col. Neerl. i, 1898, p. 205; Reitter, Faun. Germ. ii, 1909, p. 71; Johansen, Danmarks Rovbiller, 1914, p. 127; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 729; Gusmann, Ent. Blätt. (Berlin) xviii, 1922, p. 10; Everts, Col. Neerl. iii, 1922, p. 95; Munster, Norsk Ent. Tidsskr. ii, 1925-30, p. 27; Portevin, Encycl. Ent. A, xii, 1929, i, p. 288, fig. 282; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 245 (typ. subgen.); Peyerimh., Mém. Soc. Hist. Nat. Afr. Nord, no. 2, 1931 (Mission Hoggar), p. 34; Lindroth, Insektenfaun. Islands, Zool. Bidr. Upsala, xiii, 1931, p. 193.

Homalota agaricola Mannerh., Mém. prés. Acad. Sci. St. Petersb. i, 1830, p. 498; Sahlb., Ins. Fenn. i, 1834, p. 379.

Homalota amplicolis Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 226.

- Homalota breviscula* Mäklin, Bull. Soc. Nat. Mosc. xxv, 1852, ii, p. 309.
- Homalota ciligera* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 224.
- Homalota cingulata* Heer, Faun. Helv. i, 1838-42, p. 324; Cam., E. M. M. xlix, 1913, p. 158.
- Homalota clientula* Kr., Naturg. Ins. Deutsch. Col. ii, 1856-58, p. 322; Sharp, Trans. Ent. Soc. Lond. 1869, p. 266 (non Er.).
- ♀ *Homalota dubia* Sharp, Trans. Ent. Soc. Lond. 1869, p. 265.
- Homalota hygrophila* Hardy & Bold, Cat. Ins. Northumb. and Durh. 1848-51, p. 124.
- Aleochara infusca* Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 136.
- Acrotona læticornis* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 234.
- Homalota lugens* Motsch., Bull. Soc. Nat. Mosc. xxxi, 1858, iii, p. 257.
- Homalota myrmecobia* Mannerh., Bull. Soc. Nat. Mosc. xvi, 1843, p. 78.
- Acrotona negligens* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 231.
- Aleochara obfusca* Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 135.
- Homalota plebeja* Woll., Ins. Mader. 1854, p. 553.
- Oxygona præcox* Hochh., Bull. Soc. Nat. Mosc. xxxv, 1862, iii, p. 23.
- Homalota rhyssoptera* Kr., Arch. Naturg. xxv, 1859, p. 37.
- Solenia simulans* Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 256.
- Aleochara xanthopa* Steph., Ill. Brit. Ent. Mandib. v, 1832, p. 114.
- Atheta fungi* ab. *fuscicornis* Kolbe, Zeitschr. Ent. Breslau, 1907, pp. 14-25.
- Homalota modesta* Motsch., Bull. Soc. Nat. Mosc. xxiii, 1860, ii, p. 51; Hochh., id. xxxv, 1862, iii, p. 23.
- Var. *orbata* Er., Kaf. Mark Brandenb. i, 1837-39, p. 339; Gen. Spec. Staph. 1839-40, p. 132; Redtb., Faun. Austr. ed. i, 1849, p. 663, ed. ii, 1858, p. 134, ed. iii, 1874, p. 165; Kraatz, Naturg. Ins. Deutschl. Col. ii, 1856-58, p. 322; Thoms., Skand. Col. iii, 1861, p. 39; Sharp, Trans. Ent. Soc. Lond. 1869, p. 264; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873, p. 220; Fowler, Col. Brit. Isl. ii, 1888, p. 139; Ganglb., Kaf. Mitt.-Eur. ii, 1895, p. 158; Gerhardt, D. E. Z. 1906, p. 463; Reitt., Faun. Germ. ii, 1909, p. 71; Johansen, Danmarks Rovbiller, 1914, p. 128; Notman, Bull. Amer. Mus. Nat. Hist. xlii, 1920, p. 729; Munster, Norsk Ent. Tidskr. ii, 1925-30, p. 27; Gridelli, Ann. Mus. Civ. Gen. i, 1926, p. 520, liv, 1930 (Esplor. Giarabul.), p. 81.
- Subsp. *kaschmirensis* Bernh., Att. Mus. Civ. Stor. Nat. Trieste, xii, 1934, p. 87.
- BIOLOGY.—Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iii, 1873 (Ann. Soc. Linn. Lyon), pp. 230-231; Rey, Ann. Soc. Linn. Lyon, xxxiii, 1886, p. 159; Xamheu, Échange, xxv, 1909, p. 15.

Shining; head and abdomen black, the thorax darker or lighter reddish-brown, the sides usually more or less lighter; elytra brownish-yellow or reddish-brown. Antennæ yellowish-red, the base yellow, often infusate towards the apex. Legs reddish-yellow. Length 2.3-2.75 mm.

Head broad, but a good deal narrower than the thorax, extremely finely, rather sparingly punctured, feebly coriaceous. Antennæ rather slender, the 3rd joint as long as the 2nd, 4th

slightly longer than broad, 5th stouter than the 4th, as long as or slightly longer than broad, 6th to 10th about as long as broad in the ♂, in the ♀ with the 9th and 10th joints slightly transverse, 11th as long as the 9th and 10th together. Thorax about a half broader than long, the sides rather strongly rounded, convex, sometimes with a small impression before the scutellum, very finely, not closely punctured, feebly coriaceous. Elytra as broad and as long or very little longer than the thorax, feebly emarginate postero-externally, less finely and more closely punctured, the punctures somewhat asperate. Abdomen narrowed towards the apex, the first three or four segments finely and moderately closely punctured, the following much more sparingly. Pubescence rather fine, depressed, not very close, longer on the abdomen which has also a few longer black setæ, especially at the sides and apex. Middle tibiæ with a black seta, the posterior without.

♂: 6th ventral segment a little produced and rounded.

Almora: Dhaulī Ganga, alt. 6000 feet. United Provinces: Lansdowne. Widely distributed in the Palæarctic region; also in North America, West Africa, and New Zealand.

The subspecies *kaschmirensis* Bernh. differs from the type-form in the more robust build and the yellowish-brown colour of the thorax and elytra.

Kashmir: Askoli (Braldo-Tal), alt. 3100 m. Shimtsa (Punmah-Tal), alt. 3200 m.

1935. *Atheta (Aerotona) sublugens*, sp. n.

Of the size, colour and lustre of *fungi* Gr., but the antennæ are much stouter, black, with the first two or three joints only reddish-yellow, the 4th joint small, about as long as broad, the 5th to 10th gradually more transverse, the penultimate twice as broad as long; the thorax is about as closely but a little more finely punctured, the elytra a third longer than the thorax, a little more closely punctured, the abdomen distinctly less closely punctured, the seta on the middle tibia less developed. Length 2.75 mm.

Simla Hills: Kotgarh, alt. 7000 feet.

1936. *Atheta (Aerotona) andrewesiana*, sp. n.

Moderately shining; head black, thorax and abdomen reddish-brown, the latter with the 4th and 5th visible segments blackish; elytra smoky-brown. Antennæ black, the 1st joint and legs reddish-yellow. Length 1.75 mm.

In build much resembling *fungi*, but much smaller, differently coloured, and with thinner antennæ etc. Head broad, a little narrower than the thorax, extremely finely, sparingly punctured, finely coriaceous. Antennæ rather slender, the 3rd joint a little

shorter than the 2nd, 4th as long as broad or slightly transverse, 5th to 10th slightly transverse, scarcely differing amongst themselves, 11th as long as the 9th and 10th together. Thorax a half broader than long, the sides gently rounded and with two or three setæ, very finely, rather closely punctured and without ground-sculpture. Elytra as long as but slightly broader than the thorax, very finely, closely and asperately punctured, finely coriaceous. Abdomen a little narrowed towards the apex, very finely closely punctured on the first three visible segments, much more sparingly on the following, the sides with a few setæ. Pubescence of the fore-parts fine, depressed, moderately close, that of the abdomen longer. Middle and posterior tibiæ each with a moderate black seta.

♂: 8th dorsal segment truncate; 6th ventral segment produced, narrowed, and truncate.

Nilgiri Hills (*H. L. Andrewes*).

1937. *Atheta (Acrotona) clientulina*, sp. n.

Shining; head and abdomen black, the first two visible segments and the posterior margins of the following more or less obscurely reddish; thorax and elytra reddish-brown. Antennæ black, the first two joints yellowish-red. Legs reddish-yellow. Length 1.75 mm.

In build, colour and lustre much resembling *fungi* Gr., but much smaller, the antennæ different, the thorax and elytra more closely punctured, the latter without ground-sculpture, the puncturation and pubescence of the abdomen scarcely differing from *fungi*. The antennæ have the 3rd joint as long as the 2nd, the 4th to 10th transverse, the penultimate joints twice as broad as long.

Kumaun: Haldwani (*H. G. Champion*).

1938. *Atheta (Acrotona) subclientula*, sp. n.

Black, shining. Antennæ yellowish-red. Legs reddish-yellow. Length 2.5 mm.

In the build of the head and thorax similar to *clientula* Er., but with short dark elytra and differently coloured and constructed antennæ. Head narrower than the thorax, transverse, convex, finely and sparingly punctured, very feebly coriaceous. Antennæ with the 3rd joint as long as the 2nd, 4th as long as broad, 5th to 10th transverse, the penultimate joints a half broader than long, the 11th as long as the 9th and 10th together. Thorax transverse, convex, a third broader than long, the sides evenly rounded, more retracted in front, the angles rounded, finely, moderately closely punctured as in *clientula*, feebly coriaceous. Elytra a little shorter and very slightly broader than the thorax, finely, closely and roughly punctured, less finely than in

clientula. Abdomen narrowed from base to apex, finely, moderately closely punctured in front, less closely behind, less closely than in *clientula*. Middle tibiæ with two fine setæ, one at the middle, the other before the apex, the posterior without distinct setæ.

Chakrata district : Konain, alt. 8000 feet.

1939. ***Atheta (Acrotona) kraatziana***, nom. n.

Oxyptoda vilis Kr.*, Arch. Naturg. xxv, 1859, p. 28.

Black, not very shining, the thorax sometimes dark reddish-brown, the posterior margins of the abdominal segments narrowly reddish; elytra yellow, infusate at the scutellum. Antennæ black, the first two joints and the legs reddish-yellow. Length 2-2.3 mm.

In build much resembling *fuscipes* Heer, but with shorter elytra, much more finely and closely punctured and pubescent throughout, the antennæ with stouter 4th joint. Head suborbicular, much narrower than the thorax, very finely, closely punctured, finely coriaceous. Antennæ with the 3rd joint scarcely shorter than the 2nd, 4th and 5th as long as broad, 6th to 10th gradually more transverse, the penultimate about a half broader than long, the 11th as long as the 9th and 10th together. Thorax a half broader than long, the sides evenly rounded, the angles rounded, convex, the base scarcely bisinuate, very finely and closely punctured, ground-sculpture absent. Elytra about as long as but slightly broader than the thorax, scarcely emarginate, very finely and closely punctured. Abdomen distinctly narrowed from base to apex, very finely, closely punctured throughout, and with some long black setæ at the sides, apex, and posterior margins of the segments. Pubescence of the fore-parts very fine, depressed and close, that of the abdomen longer and coarser. Middle tibiæ with two black setæ, the posterior with one.

Dehra Dun. Siwaliks. Mussooree and Chakrata districts. Kumaun: Haldwani (*H. G. Champion*).

1940. ***Atheta (Acrotona) inornata***.

Homalota inornata Kr.*, Arch. Naturg. xxv, 1859, p. 39.

Not very shining, black, the elytra brownish-yellow, darker at the scutellum and postero-externally. Antennæ black, the first two joints reddish-brown. Legs reddish-yellow. Length 2.2 mm.

Very similar to *kraatziana* in build, sculpture and pubescence, but with the antennæ shorter and stouter, the 4th to 10th joints transverse, the penultimate twice as broad as long, the base darker in colour, thorax a little shorter, the base more bisinuate, the posterior angles more evident, obtuse,

elytra of darker colour, the abdominal segments without lighter posterior margins.

Ceylon. India : Dehra Dun. Mussooree district : Key-arkuli. Nilgiri Hills. Ghum district.

1941. *Atheta (Acrotona) ruralis*, sp. n.

A little shining, the abdomen more so ; head black, thorax and abdomen reddish-brown, the posterior margins of the segments yellowish ; elytra yellow. Antennæ black, the first three joints and legs reddish-yellow. Length 2 mm.

Scarcely differing from *kraatziana* in build and colour, but with stouter antennæ as in *inornata* ; differs from both in the less fine, less close and somewhat rough puncturation of the fore-parts and the much coarser and more sparing pubescence of the abdomen. Head much narrower than the thorax, finely, rather closely, somewhat roughly punctured, very finely coriaceous. Antennæ with the 3rd joint as long as the 2nd, 4th small, transverse, 5th stouter and longer, slightly transverse, 6th to 10th shorter than the 5th, differing but little amongst themselves, nearly twice as broad as long, the 11th as long as the preceding two together. Thorax a third broader than long, convex, narrowed towards the front, finely, closely and roughly punctured ; ground-sculpture absent. Elytra as long as and slightly broader than the thorax, not emarginate postero-externally, very similarly punctured. Abdomen a little narrowed towards the apex, finely, moderately closely punctured throughout. The fore-parts rather closely covered with a fine depressed pubescence, the abdomen with longer and coarser hairs and some longer more or less erect black setæ at the posterior margins of the segments and sides. Middle tibiæ with two black setæ, posterior with one. In the two specimens the 8th dorsal segment is feebly arcuately emarginate, the 6th ventral more deeply and more narrowly arcuately emarginate.

Dehra Dun. Siwaliks : Malhan Range. In fungus.

1942. *Atheta (Acrotona) inquinata*, sp. n.

Not very shining, black, the elytra yellowish-brown, the posterior margins of the abdominal segments very narrowly and obscurely reddish. Antennæ black, the first two joints yellowish-brown. Legs reddish-yellow. Length 3 mm.

In build somewhat similar to *kraatziana*, but much larger, more robust, the abdomen more parallel and differently coloured, the antennæ much stouter, thorax longer and so less transverse, the sculpture not so fine. Head round, very finely, moderately closely punctured, coriaceous. Antennæ short and stout, the 3rd joint as long as the 2nd, 4th and 5th as long

as broad, 6th to 10th transverse, the penultimate twice as broad as long, 11th as long as the 9th and 10th together. Thorax a fourth broader than long, convex, the sides evenly rounded, without distinct setæ, finely, rather roughly and closely punctured, coriaceous. Elytra as long as and slightly broader than the thorax, finely, rather closely and somewhat roughly punctured, finely coriaceous. Abdomen a little narrowed behind, finely, rather closely punctured on the anterior segments, a little more sparingly on the following. The pubescence throughout is rather coarse, depressed, not very close. Middle tibiæ with a stout seta.

Kashmir : Gulmarg, alt. 8000–10,000 feet.

1943. *Atheta (Acrotona) rufiventris*.

Atheta (Acrotona) rufiventris Cam., Trans. Ent. Soc. Lond. 1920, p. 264.

Rather shining; head black; thorax and abdomen bright reddish-testaceous; elytra, first three joints of the antennæ, and legs testaceous. Length 1.8 mm.

Head black, suborbicular, the eyes large and temples short, moderately finely, closely and roughly punctured, the pubescence fine and sparing. Antennæ fuscous, the first three joints testaceous, the 2nd and 3rd of equal length, the 4th to the 10th transverse, gradually increasing in breadth, the penultimate about twice as broad as long, the 11th longer than the two preceding together, pointed. Thorax bright reddish-testaceous, about half as broad again as long, the sides evenly rounded, more strongly narrowed in front than behind, the posterior angles rounded; puncturation and pubescence similar to that of the head. Elytra testaceous, as long as and slightly broader than the thorax, transverse, not sinuate internal to the postero-external angles, with puncturation similar to that of the thorax but scarcely so close. Abdomen narrowed posteriorly, entirely bright reddish-testaceous, very finely and not very closely punctured anteriorly, the 7th and 8th segments much more sparingly; the sides, apex and upper surface with long black setæ. Intermediate tibiæ each with two distinct black setæ, of which the middle one is the longer and stouter; posterior tibiæ with two setæ which are not so strong as those of the middle pair.

Mussooree district: Arni Gad. Also in Singapore and Malaya.

1944. *Atheta (Acrotona) annuliventris*.

Homalota annuliventris Kr., Arch. Naturg. xxv, 1859, p. 40; Cam., Trans. Ent. Soc. Lond. 1921, p. 395.

Moderately shining, reddish-yellow, the elytra sometimes very slightly infusate, the abdomen with the 4th (visible)

segment black, the posterior margin of the 3rd a little infusate. Antennæ brown, the first three or four joints and the legs reddish-yellow. Length 2 mm.

In size and build very like *rufiventris* Cam., but differently coloured, the antennæ a little stouter, the puncturation much finer, not at all asperate on the head and thorax and but slightly on the elytra and abdomen. Head transverse, a good deal narrower than the thorax, convex, the eyes large, rather closely covered with very small, superficial, feebly umbilicate punctures; ground-sculpture absent. Antennæ with the 3rd joint a little shorter than the 2nd, 4th to 10th gradually more transverse, the penultimate a half broader than long, the 11th a little longer than the 9th and 10th together. Thorax a half broader than long, convex, narrowed towards the front, the posterior angles rounded, the puncturation very fine, close and simple. Elytra as long as but scarcely broader than the thorax, slightly emarginate postero-externally, the puncturation a little less fine and slightly asperate. Abdomen narrowed from base to apex, very finely, moderately closely punctured on the first three segments, obviously less closely on the following, here and there with a longer black seta, the sides and apex with a few others. Pubescence of the fore-parts very fine, rather close, depressed, that of the abdomen longer and coarser. Middle and posterior tibiæ without distinct setæ.

Siwaliks: Mohan Rau. Also in Singapore.

Subgenus *AMIDOBIA* Thoms.

Amidobia Thoms., Cefv. Svenska Vet.-Akad. Förh. 1858, p. 35; id., Skand. Col. ii, 1860, p. 295; Muls. et Rey, Hist. Nat. Col. Fr. Brévip. Aléoch. iv, 1875, p. 64; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 215; Reitt., Faun. Germ. ii, 1909, p. 51; Johansen, Danmarks Rovbiller, 1914, p. 194; Fenyès, Gen. Ins. 173 B, 1920, p. 178; Portevin, Encycl. Ent. A, xii, 1929, i, p. 290; Scheerp., Sitz.-Ber. Akad. Wiss. Wien, Abt. i, cxxxviii, 1929, p. 245.

Small, obscure, more or less parallel species. Head sub-orbicular, not or scarcely widened behind the eyes, these small, shorter than the post-ocular region which is not bordered below. Antennæ short and stout, the 3rd joint shorter than the 2nd, the penultimate strongly transverse. Thorax transverse, the lateral setæ feeble, the pronotal epipleura visible from the side. Mesosternal process narrow and pointed, extending somewhat beyond the middle of the coxæ, these narrowly separated. Elytra a little longer than the thorax, slightly emarginate postero-externally. Abdomen more or less parallel, the first three visible segments transversely impressed at the bases, the 7th segment not longer than the 6th. Legs moderate, tibiæ without distinct setæ.

Key to the Species.

- Larger (1·75 mm.) and broader; thorax and elytra less closely punctured *subparallela*, sp. n., p. 410.
 Smaller (1·5 mm.) and narrower; thorax and elytra more closely punctured *umbratica*, sp. n., p. 410.

1945. *Atheta (Amidobia) subparallela*, sp. n.

Rather shining; head black, thorax and elytra dark reddish-brown, abdomen black, the posterior margins of the first three visible segments narrowly reddish, the posterior margin of the penultimate and whole of the last reddish-yellow. Antennæ yellowish-red. Legs reddish-yellow. Length 1·75 mm.

In colour and lustre very like *talpa* Heer, but slightly larger, the penultimate joints of the antennæ not quite so transverse, the thorax more transverse, its puncturation not quite so close. Head narrower than the thorax, convex, transversely suborbicular, the post-ocular region much longer than the eye, scarcely dilated, extremely finely, very sparingly punctured, very finely coriaceous. Antennæ with the 3rd joint shorter than the 2nd, 4th slightly, 5th to 10th more strongly transverse, the penultimate joints nearly twice as broad as long, the 11th as long as the 9th and 10th together. Thorax a half broader than long, the sides evenly rounded, the posterior angles broadly rounded, lightly, longitudinally impressed in the middle behind, extremely finely, moderately closely punctured, very finely coriaceous. Elytra broader and a little longer than the thorax, transverse, slightly emarginate postero-externally, very finely, rather closely and much more distinctly punctured than the thorax. Abdomen a little narrowed before the apex, very finely, rather sparingly punctured on the first three segments, more sparingly on the following. Pubescence throughout fine, yellow, and scanty.

Ghum district. In moss.

1946. *Atheta (Amidobia) umbratica*, sp. n.

Moderately shining; head black, thorax dark brown, elytra yellowish-brown, abdomen black, the last segment yellowish-red. Antennæ reddish, the first three joints reddish-yellow. Legs yellow. Length 1·5 mm.

Very similar to *subparallela* in colour and lustre, but narrower, the thorax less transverse; head formed as in *subparallela*, but with the puncturation more distinct, the penultimate joints of the antennæ not quite so transverse; thorax less transverse, the sides straighter behind, the puncturation distinctly closer; elytra obviously more closely punctured, abdomen a little more closely.

Chakrata district: Chulli Khud, alt. 8000 feet. Simla Hills.

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